2022

The Nation, Southern California and Orange County

ECONOMIC FORECAST

WOODS CENTER FOR ECONOMIC ANALYSIS AND FORECASTING

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The Nation, Southern California and Orange County

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BRAVE NEW WORLD

"Life is like a box of chocolates. You never know what you're gonna get"
– Forrest Gump

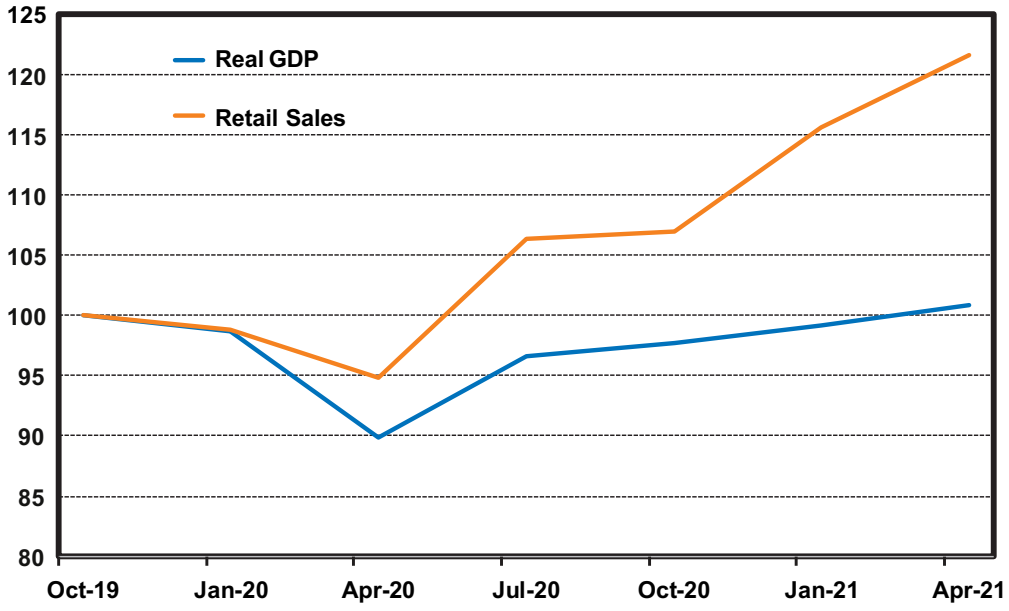
Overview

Forrest Gump, the critically acclaimed movie, is an extraordinary tour-de-force account of post-war American history through the eyes of an improbable hero, a slow-witted but kind-hearted Alabama man. It tells a tale of a simple man's larger-than-life journey through complex times, as Forrest stumbles through some of the most iconic events in American history and innocently helps shape that history without really trying to do so. He teaches Elvis Presley how to dance by swinging his hips, unwittingly defies the segregationist orders of George Wallace, becomes a Vietnam War hero, accidentally discovers the break-in at Watergate, inspires John Lennon's "Imagine," hangs out with Yippies and hippies, beats the Chinese at ping pong, meets (and somewhat stumps) no less than three U.S. presidents and becomes one of the first investors in Apple Inc. computers. From his frontcourt seat to every major event of the second half of the 20th century, Gump's take on life — despite its apparent simplicity — is anything but simple: It is deep and rich in its complexity in dealing with love and loss through an enduring sense of perseverance, goodwill and optimism.

Today's economy has much more in common with *Forrest Gump* than originally meets the eye. The outlook has unquestionably become more complex than at the start of 2020 — before the pandemic struck the U.S. — and even more treacherous than this spring, when a vaccine-led recovery was expected to fuel an unprecedented boom. More to the point, the economy that has emerged post-pandemic seems to embed virtually the entire economic record of the 20th century: a touch of the

Roaring '20s (retail sales have run at an annualized pace of 20%); a bit of a Reaganesque-era growth of the '80s (GDP growth was above 6% for the first half of this year) (Figure 1); a dollop of 1940s war-time deficits (at 15% of GDP, it is the largest since 1945); a throwback to the 1960s government largesse (fiscal support amounted to a jaw-dropping $5.9 trillion since COVID struck); a dash of over-accommodative monetary policy of the '60s (money supply grew by 20% for 10 straight months from mid-2020 to early-2021); and an eerie return of inflation terrors reminiscent of the 1970s (inflation has averaged 5% since April). With such an impressive potpourri, it seems as if the Almighty has decided to condense the decades-long colorful life of Forrest Gump (viewed from an economic lens) into the span of a single year.

FIGURE 1
A Touch of the Roaring '20s and a Smidgen of the '80s
(real GDP and retail sales, index, Q4 2019=100)



And what a year it has been! When all is said and done, it is likely that the most memorable thing about 2021 will be that it turned out to be different than what it promised at its onset. Indeed, "*Life is like a box of chocolates*" is shaping up to be more than a belief system of Gump's simple take on life: It is turning into a reality that economies and markets across the world have had to grapple with. At the start of the year, expectations for economic growth were sky-high as the world was poised to break free from the clutches of a once-in-a-century pandemic due to the fortunate arrival of vaccines, a long-awaited reopening and unprecedented government support. The U.S. labor market added an average 520,000 jobs during the first three months of the year, with that pace expected to pick up meaningfully in the second half of 2021. U.S. consumers were sitting on an eye-popping $2.5 trillion of excess savings, thanks to the many rounds of stimulus cash and generous unemployment benefits. In April, the ISM manufacturing index stood at its highest level since 1983, foretelling a strong pick-up in activity as businesses looked to replenish their pandemic-stricken inventories. Economic forecasts underwent unprecedented upside revisions at a dizzying speed: The Federal Reserve ratcheted up its forecasts for 2021 growth from a measly 4% in September 2020 to 6.5% in March 2021. The IMF more than doubled its initial estimate for 2021, from 3.1% in October 2020 to 7% in June 2021.

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Even the virus seemed to cooperate. Partly due to the early success of vaccines and partly to the natural ebbs and flows of the disease, infection rates in the U.S. collapsed from a high of 250,000 daily cases during the dark days of January, to less than 12,000 in mid-June. Hospitalizations

dropped from 133,000 to fewer than 13,000. Deaths plunged from a daily 3,500 rate to a couple of hundred by the end of June. Vaccination rates ramped up to 3.3 million per day as of mid-April. A pervasive feeling was unmistaken: Humanity had finally triumphed over the disease.

Good news on the virus front meant the world was gearing up for a summer of celebration — an exhilarating boom that was supposed to kick into an even higher gear by Labor Day as vaccinations became more widespread, schools reopened and businesses brought back their workforce. Seated diners, tracked by OpenTable data, were back to their pre-pandemic levels. Moody's Back to Normal Index, which tracks a few dozen high-frequency data points on economic activity, stood just a hair below its value before the pandemic struck. From January to July, the leisure and hospitality sector — the foremost beneficiary of a post-pandemic world — added an astounding 2.1 million jobs, of which 1.3 million were in food and drinking services. Travel and tourism perked up. Limp Bizkit was scheduled back in concert. Britney Spears was set to break free from the shackles of a 13-year-long somewhat bizarre conservatorship.

The outlook has darkened considerably since those dreamy days of early summer, thanks in large part to the spread of the Delta variant — a more infectious and somewhat more resistant virus strain than previous variants. Daily infections rose to 165,000 as of early September; deaths have increased tenfold from their early summer lull, and hospitalization rates have climbed up to nearly two thirds of the peak in January (Figure 2). Consumer sentiment has cratered: In August, the University of Michigan Consumer Sentiment fell to its lowest level since December 2011, surpassing the drop during the height of the pandemic. The labor market added 366,000 jobs during the month of August and a more dismal 194,000 in September, far below the 750,000 and 500,000 jobs expected by the consensus, respectively. Amazon, Apple, Wells Fargo and other companies have shelved plans to reopen offices, some until 2022. The European Union barred non-essential travel from the U.S. (U.S. borders to Europeans have remained shuttered for over a year). Limp Bizkit cancelled. Paramount Studios postponed two of its most anticipated releases: "*Top Gun and Mission Impossible 7.*" The brave new world that was supposed to emerge from the ashes of the pandemic appears to be inching closer to Huxley's sci-fi namesake dystopia than to the promised land of a virus-free world.

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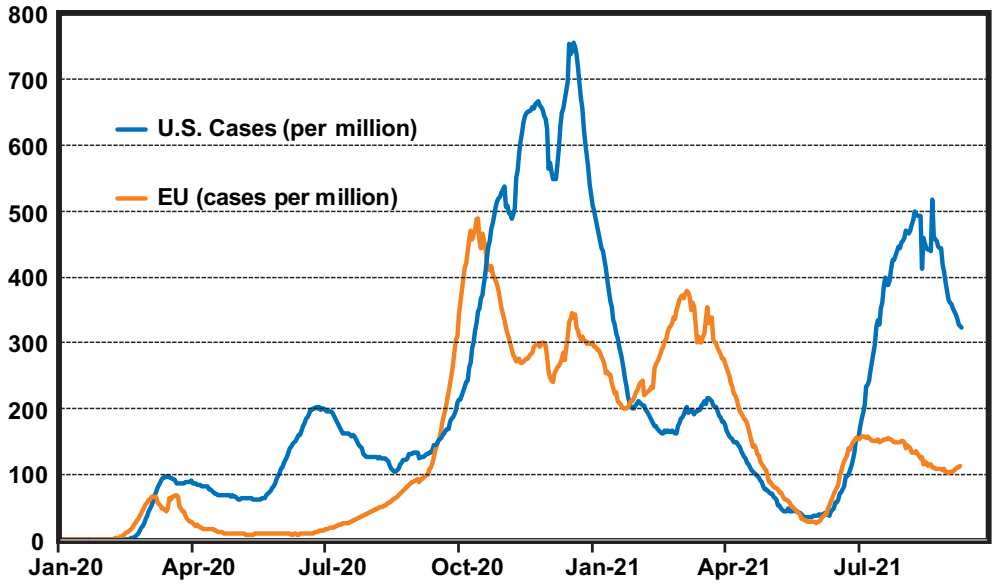
FIGURE 2
Delta Force: COVID Swept the Globe this Summer (infections per million)



Worries abound. Delta appears more infectious than the original SARS-CoV-2 virus, spreading roughly 2.5 times quicker. Its ability to spread more easily poses a greater risk to the unvaccinated than previous variants. And, unlike early in the spring when vaccine demand vastly outpaced supply, currently, the majority of the unvaccinated appear to remain so by choice. Daily vaccination rates have slowed to a trickle — roughly one-fifth of the 3.3 million peak recorded in mid-April despite federal and some state mandates.

More concerning, the arrival of Delta has raised fresh doubts about vaccine efficacy. Studies show that it has some ability to circumvent antibody defenses, regardless of whether the antibodies were obtained naturally through past infections or through vaccinations. According to the CDC, prior to Delta, fully vaccinated people accounted for 5% of infections, 7% of hospitalizations and 8% of deaths. From mid-June to mid-July, as Delta spread, those figures roughly doubled with fully vaccinated people accounting for 18% of cases, 14% of hospitalizations and 16% of deaths. Indeed, though vaccines continue to offer significant protection against severe illness, hospitalization and death, that defense is not as high as against the original strain, particularly for the elderly. Various studies show the efficacy to drop from around 95% to roughly 67%-87% though significant variations exist among the different age groups.

More importantly, aside from health concerns, Delta appears to be charting a different course than prior virus waves when it comes to its economic impact. After all, the world has become accustomed to the virus battering growth, so some sapping of demand is expected as Delta spreads. What's unusual is that it has pummeled growth less dramatically than prior virus waves while stoking inflation. A long-forgotten word, "stagflation" has re-entered the lexicon — something the world has not seen nor worried about in more than four decades. To be sure, the chatter has been about a mild case of stagflation rather than the full-blown kind, but as long as it haunts analysis and underscores background risk, its very existence makes for a troubling environment.

Our view is more sanguine than the grim prognosis of the stagflationary crowd though less cheerful than the Goldilocks economy (high growth/low inflation) that some economists and most policymakers are penciling in. Delta will not plunge the economy into a recession, though the soft patch amid an uneven recovery will continue as long as it lingers around. But the most pressing and longer-lasting concern is inflation, which much like the virus, will likely become endemic and pervasive, at least over the forecast horizon. That combination — somewhat slower growth and higher inflation or "stallflation" — though much more unsettling than the buoyant outlook of just a few months ago, is still orders of magnitude better than the dour prospects of an economy mired in stagflation.

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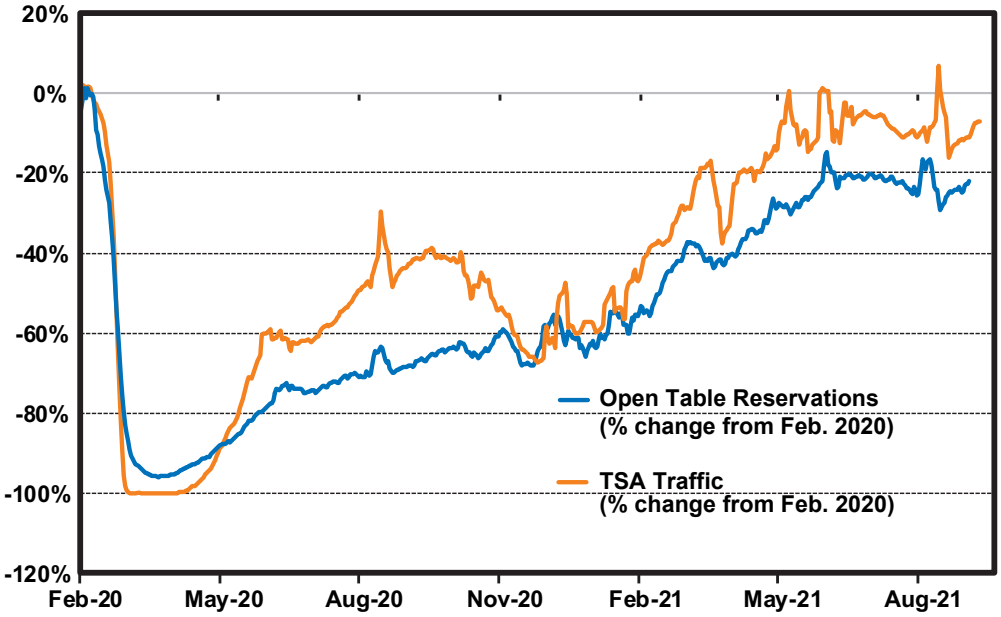
The mild "stallflation" scenario is the most likely outcome for a number of reasons. First, growth should continue albeit at a slower clip than the breakneck pace set earlier in the year. That's because while Delta has sapped confidence, wilted enthusiasm for spending and sagged demand for services, it has been less destructive than previous waves of the virus. A year ago, foot traffic through the TSA was two-thirds below the pre-pandemic level, while seated diners were nearly 50% lower. Now, the figures are a mere 25% and 12% lower, respectively, even though infections and

hospitalization rates are three times higher (Figure 3). Retail sales rebounded in August after falling in July, despite a surge in infections, attesting to continued resiliency in consumer spending. Moreover, American households have amassed an impressive war-chest should tougher times hit: Household wealth stood at a dizzying $134 trillion in the second quarter of this year, up from $110 trillion prior to the pandemic. And though much of this windfall is due to spectacular gains in equity and home prices, U.S. consumers have stockpiled unprecedented amounts of cash: $16.6 trillion compared to $12.7 trillion at the end of 2019.

FIGURE 3
Delta Has Stalled but Not Crimped Activity
(TSA passangers and seated diners, percent change from Feb. 2020)



The labor market should also continue to heal though the pace of job formation has moderated somewhat as Delta sweeps the country. Nonetheless, while the recent virus spike has managed to take the sheen off of the initial exuberance, it has not snuffed out the labor market recovery. Signs of labor market resiliency are everywhere: More than 5 million new jobs were created so far this year, on top of the 12.3 million in 2020. Job growth, though uneven and patchy, has averaged a robust 561,000 since the start of the year. Jobless claims have fallen to a post-pandemic low of 344,000, suggesting employers are hanging on to their workers. Labor demand has never been this firm: Job openings stood at an astounding 11 million at the end of July (latest available data), the highest since records began (two decades ago) even as the number of unemployed is less than two-thirds that figure. Hiring qualified labor is the single most important concern for most small businesses according to the National Federation of Independent Business (NFIB) survey, the highest since 1985 (when the survey began).

Continued growth, even at a less exuberant pace than previously envisioned, is certainly good news. But this time, unlike the growth spurts of the last decade, it comes with a highly worrisome and menacing side effect: an unsettling surge in inflation. It is hard to overstate the pervasiveness of this phenomenon and the dizzying speed of its spread. Headline CPI has averaged 5.3% on a year-over-year basis over the past three months, the highest since 2008 when a surge in energy prices

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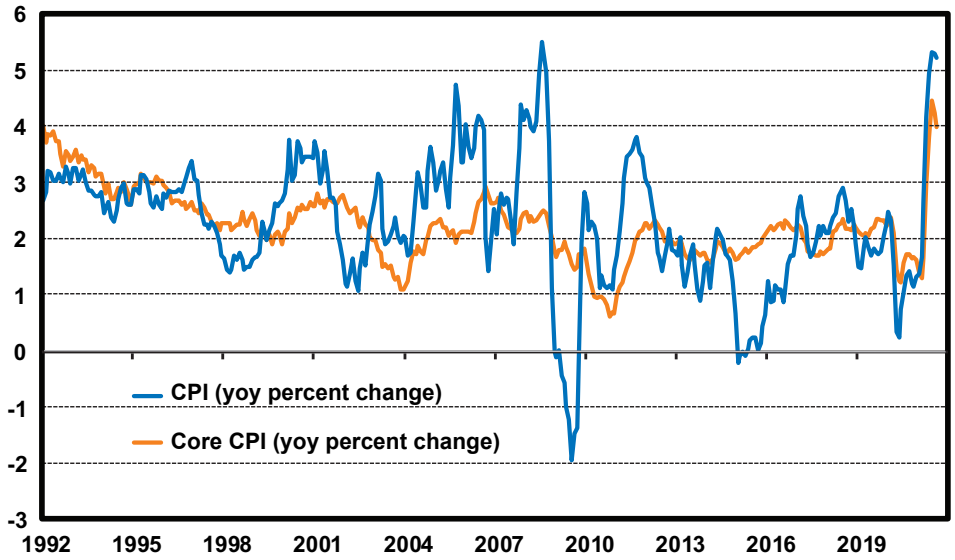
sent inflation soaring. (Figure 4) Ditto for the PCE price index, which has run at a white-hot pace of over 4% over the same period. Core PCE inflation, the preferred measure of the Federal Reserve, which strips away energy and food prices, has averaged 3.6%. The last time this happened was in the early 1990s, right before a tightening by the Fed tipped the economy into a recession. These figures are entirely alien to a 43-year old American worker — the median U.S. age — who has never experienced in his lifetime a core inflation rate above 3%. This is indeed the stuff of nightmares.

FIGURE 4
An Unsettling Surge in Inflation
(CPI and core CPI, yoy percent change)



The Federal Reserve (and many market analysts) has remained largely unfazed by soaring inflation, dismissing it as largely "transitory" due to base-year effects and a one-time grand reopening of the economy. There is some truth in that: Comparisons to the previous year, when prices fell as the pandemic shuttered the economy, would undoubtedly deliver higher figures 12 months after even if inflation stayed low. The reopening of the economy - spurred by vaccines and the relaxing of restrictions on social and economic activity - was expected to lead to higher inflation, but as a one-time event, it was meant to dissipate quickly once pent-up demand was slaked and the world returned to a more normal order.

However, dismissing inflation as a mathematical quirk or a side-effect of a lopsided recovery is profoundly mistaken, in our opinion. This inflationary outburst, while featuring some transitory traits, has all the hallmark makings of something more permanent — a more sustained outbreak — at least over the next few years. That's because it is fueled both by demand and supply side shocks, which will take a while to fully resolve. The unleashing of a formidable pent-up demand as consumers reawaken from the pandemic slump is being powered not only by an astounding rise in equity and home values but also by unprecedented fiscal support. It will take a while for American households to run down their newfound riches, which means demand will run high for a while. Monetary policy has added more fuel to the fire: Money supply grew at an extraordinary pace of over 20% during much of 2020, as the Fed gobbled up massive amounts of Treasury bonds and mortgage-backed securities in a quest to bolster the economy. Much of that excess cash — around $2.3 trillion — is still parked as excess reserves in the banking system. Should that ocean of cash ever hit the economy, inflation will skyrocket.

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Unprecedented demand is running against unprecedented supply constraints, further stoking inflation. Reopening bottlenecks, clogged ports and pandemic-induced reshuffling of supply chains across the globe have caused businesses to run headlong into shortages of everything: from

microchips to houses, cars, furniture and appliances. Even labor is in short supply as businesses struggle to lure reluctant workers. Inventory-to-sales ratios have fallen to their lowest level in over 25 years (since records began) (Figure 5). The ISM Supplier Delivery time index recorded its slowest delivery times ever, which has allowed manufacturers to raise prices for quicker deliveries. The cost of shipping from China to the U.S. has roughly tripled over the past year. A dearth of semiconductors in the vehicle industry has shuttered car manufacturing across the world, resulting in an estimated drop in global car production of 5.2 million. This has pushed the prices of used cars up by a mind-boggling 30%. This summer's Delta outbreak in Southeast Asia and China temporarily shuttered ports, production plants and distribution centers, placing further strains on supply constraints. And while businesses have been able to quickly navigate some supply disruptions (such as toilet paper and hand sanitizers), microchip scarcity and shipping capacity are much slower to adjust, which means rampant inflation up-and-down the supply chain will not be quickly resolved.

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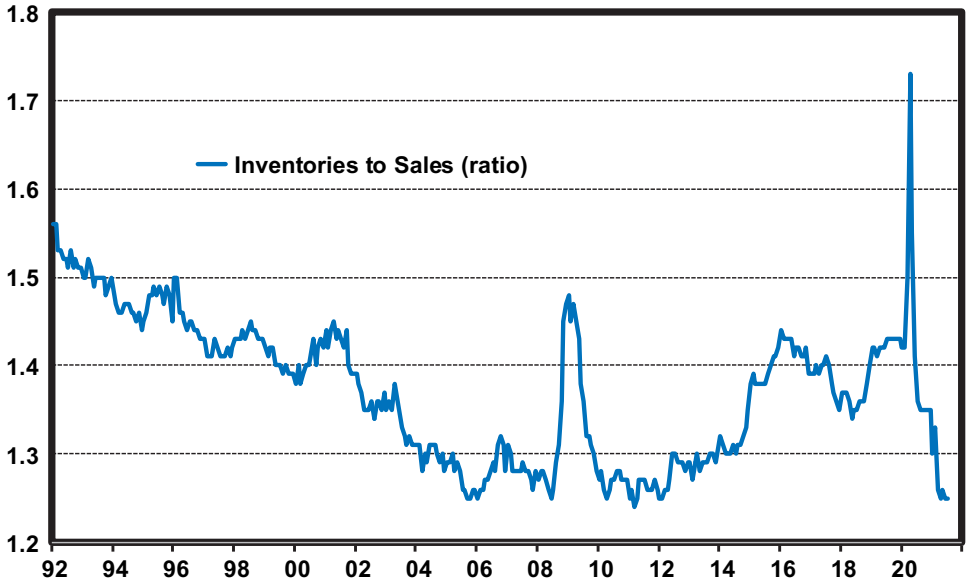
FIGURE 5
Unprecedented Supply Constraints: Inventories at Rock Bottom
(inventory-to-sales ratio)



Other worries abound. The recovery remains hostage to the virus as it becomes apparent that, rather than permanently stomping out the disease, we might have to live with it. New variants may emerge, threatening growth and disrupting supply chains. The markets have turned skittish from their unbridled enthusiasm displayed earlier in the year, which explains why Evergrande's debt issues, a property developer continents away sent stock markets reeling in mid-September. The Fed's next balancing act — tapering without the tantrum — and its handling of persistent high inflation bear enormous risks. Fiscal follies are again in the offing: The debt ceiling show is back, this time coupled with a few additional melodramas — a potential government shutdown, a mammoth $3.5 trillion social spending bill and a $1.2 trillion bipartisan infrastructure bill — all crammed into the next few months. The debt ceiling and government shutdown got a reprieve just recently, but only until December, when the drama will pick up again. While, as we lay out below, we think Congress will manage to avert a full-blown crisis, there is no doubt that the outlook is now more uncertain than it has ever been since the world arose from the pandemic slumber.

Towards the end of the *Forrest Gump* movie, Gump delivers his most profound musing on life's meaning: "*I don't know if we each have a destiny or if we're all just floating around accidental-like on a breeze, but I think maybe it's both. Maybe both is happening at the same time.*" There can be no better account for

where the economy is headed. Its destiny is continued growth. But on that road to growth, it will likely float accidental-like in a breeze, battered by high-inflation winds, virus flare-ups and rising risks. So let's take a page from Gump's life lessons, grab our running shoes and gear up for the ride!

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Delta Force: The Pandemic That Won't End

"My momma always said: You've got to put your past behind you before you move on."
– Forrest Gump

Wiser words have never been spoken: Putting the past behind you is crucial when moving forward. But what to do when the past simply won't disappear? The world has grappled with COVID-19 for far too long — a painful 18 months — yet the virus lingers on, disrupting lives and economic activity. The spread of the Delta variant has added more misery as it appears to be not only more transmissible but also more deadly than prior mutations of the virus. It spreads 2.5 times faster than the original SARS-CoV-2 virus (though confidence interval bands are wide and go all the way up to four) — a significant step-up over the Gamma type (first discovered in Brazil), which spreads twice as fast and the Alpha (Great Britain) and Beta (South Africa), which spread 1.5 times quicker. Worldwide, the total number of infections since the pandemic began currently stands at 238 million; deaths at 4.9 million. A full 100 million infections and 2 million deaths have occurred since March, when Delta first appeared. The U.S. has seen 100,000 deaths and nearly 10 million new cases since June, when the Delta variant began to spread in earnest, bringing the total number of infections and deaths to a heartbreaking 45 million and 715,000, respectively.

The world has grappled with COVID-19 for far too long — a painful 18 months — yet the virus lingers on, disrupting lives and economic activity.

A big part of the problem is vaccination rates. While Delta has spread among the vaccinated and unvaccinated, the havoc it has wreaked among the unvaccinated has been many orders of magnitude larger than among the vaccinated, which means that vaccination rates matter greatly. However, inoculating the world was always going to be a daunting task, and though progress has been made, much still remains to be done. As of this writing, 6 billion doses of vaccines have been administered globally: Less than half of the world population (43%) has received one shot while less than one-third (31%) are double-jabbed. Wide disparities exist: Only 1% of Nigerians and Ethiopians have been fully vaccinated, in stark contrast with 82% in the UAE, 78% in Singapore and 77% in Portugal.

Low vaccination rates in Southeast Asia have thrown global supply chains in turmoil as Delta raged across the region this summer, producing the worst outbreak since the start of the pandemic. The region's early success in containing the virus last year through various containment measures has led to complacency in procuring and administering vaccines. Vietnam has managed to fully vaccinate only 7% of its population; Taiwan only 8%. The Philippines and Thailand fare a bit better with around one-fifth of the population receiving two shots, but that number is woefully below where it should be to meaningfully halt the spread of the disease. American retailers have lobbied the U.S. government to ramp up its vaccine donations to Southeast Asia given the importance of the region to global supply chains. Unless vaccination rates pick up dramatically from their current pace, disruptions due to supply chain issues will continue to persist, choking growth and further stoking inflation.

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America's vaccine program got off to a stellar start, far outpacing by far the EU and many other rich world economies. By mid-April, daily vaccinations reached 3.3 million with roughly 40% of adults receiving at least one dose and nearly a quarter being fully vaccinated. By contrast, the EU had double-jabbed a mere 10% of its population; Canada less than 3%. Lofty aspirations drove the new administration to declare that the U.S. would vaccinate 70% of its adult population by July 4 — a form of symbolic independence from the virus. Almost three months later that target seems woefully elusive with only 66% of U.S. adults being fully vaccinated. As percentage of total population (which is what truly matters when it comes to stopping the virus in its tracks), the figures are even more

disheartening: 64% of the U.S. population has received at least one shot, and only 55% is fully vaccinated. In the meantime, the EU has managed to fully inoculate 61% of its population, the UK 65% and Canada 70% (Figure 6).

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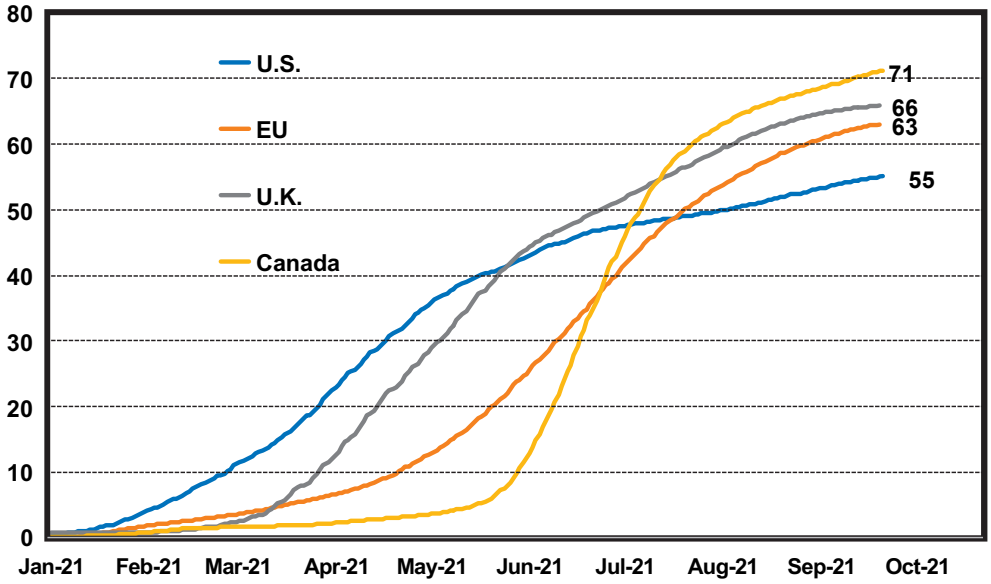
FIGURE 6
Falling Behind: U.S. Vaccination Rates Lag Other Countries
(percent of fully vaccinated people)



That's because U.S. vaccination rates have slowed to a trickle — less than 700,000 per day at the end of September — despite the Delta variant, government edicts and business mandates in some cities to enter gyms, restaurants, bars and nightclubs. At the current pace, 70% of Americans will have been jabbed with at least one shot by early December. Reaching a higher rate, of say 85% (which experts are now touting as "herd resiliency"), would take until June of next year. And while the slowdown in vaccine uptake is quite stark in the U.S., it is, without a doubt, a worldwide phenomenon. Canada, Europe and the UK are administering a fraction of jabs earlier in the year — roughly between a quarter to one third.

This should not come as a surprise: It is typical for vaccine rates to stall once the willing and easy-to-reach populations get their shots. After that, things would inevitably hit a ceiling against the mass of the unpersuaded and vaccine skeptics. A May Gallup poll across 117 countries and 300,000 people found that only 69% of adults would be vaccinated if a vaccine was available to them. And though hesitancy has declined over time, it has done less so in America than most elsewhere. Surveys from Morning Consult show that the share of American adults saying they were unwilling or uncertain about getting vaccinated fell from 37% to 28% from March to August; in France, by contrast, they declined from 49% to just 14%.

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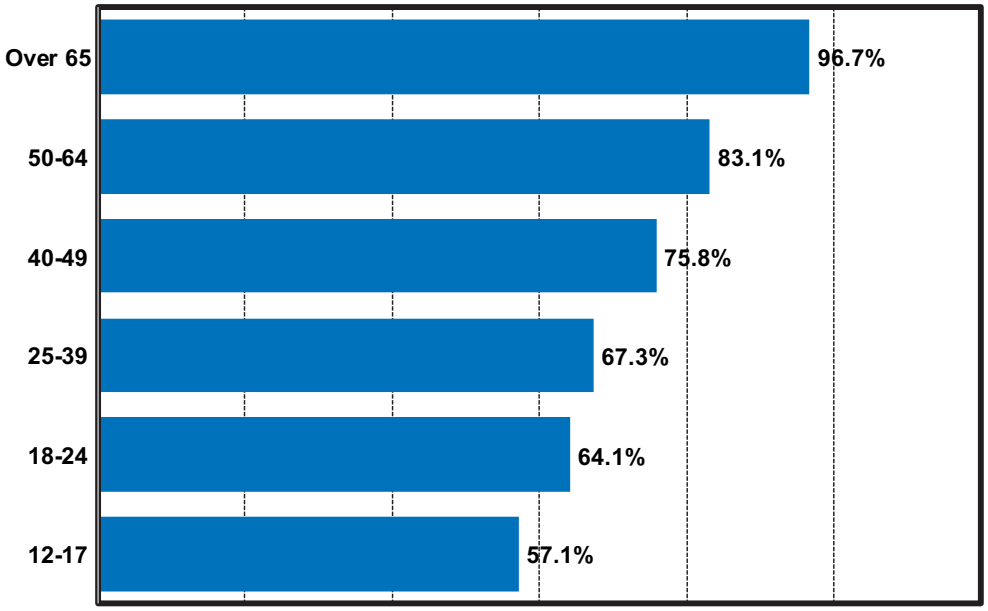
America also has the unique distinction of being a place where the jabs and jab-nots are broken down along political lines. Vaccination rates are the highest along the Northeast and Pacific West (which tend to vote Democratic) with Vermont and Massachusetts leading the pack — having vaccinated 77% of their population with at least one shot — followed by Connecticut (76%), Rhode Island (75%) and Maine (74%). California has inoculated 71% of its population with one dose; 58.5% has had both.

Vaccination rates lag in the South and Northern Plains. Idaho and Wyoming have inoculated less than half of their populations with just one dose. Louisiana, Alabama, Mississippi, Georgia, Montana and North Dakota, hover around 51%-54%.

Though divisions along political lines grab the most headlines, they account only partially for the enduring vaccine hesitancy in the U.S. A large portion can be explained by other characteristics such as race and age. The percent of white Americans who are fully vaccinated is 55%. The number is far higher (70%) for Asian Americans but dramatically lower for African Americans (43%) and Hispanics (47%). Younger people are less inclined to get the jab, presumably because the virus poses fewer risks to them. A full 86.7% of people 65-74 have received at least one jab. That share declines to 83.1% for those between the ages of 50-64, 75.8% for those in the 40-49 cohort, and 67.3% for ages 25-39. Only 64% of 18-24-year-old adults have received one vaccine dose, with that number dropping to 57% for those between the ages of 12 and 18 (Figure 7).

FIGURE 7
It's an Age Thing: COVID Vaccination by Age Group (perent of population with at least one dose)



As long as vaccine hesitancy remains stubbornly high in the rich world and supply constraints limit available dosages in the developing world, COVID-19 will continue to wash across the world with potential new waves crashing everywhere. But the arrival of Delta has further complicated the outlook even for the vaccinated, sowing fresh doubts about humanity's ability to vanquish the virus once and for all. To be clear, vaccines do work against Delta, but with an asterisk. They remain effective against severe disease, hospitalizations and death, but less so against infections, though the results vary greatly by age and health status. According to the CDC, 70% of breakthrough infections and 87% of deaths are in patients over 65.

As long as vaccine hesitancy remains stubbornly high in the rich world and supply constraints limit available dosages in the developing world, COVID-19 will continue to wash across the world with potential new waves crashing everywhere.

Israel, one of the most highly vaccinated countries in the world, is in the midst of its worst COVID outbreak since the pandemic began. More than half of infections are among vaccinated people — a testament of Delta's high transmissibility and an indication that vaccine efficacy may ebb over time. One Israeli study found that those who were vaccinated back in January or February (who tended to also be older) were more than twice as likely to experience "breakthrough infections" in July than those vaccinated in March or April. Nonetheless, their protection against severe illness and deaths remained high at above 80%. A Mayo Clinic study showed that the efficacy of the Pfizer vaccine from January-July (prior to Delta) was quite high: 76% against infections and 85% against hospitalizations. The comparable numbers for July — as Delta raged across the country — were 42% and 75% (Table 1).

It has become painfully clear by now that treating the virus as a transient emergency that can be kept at bay by bolting doors, banning travel, and limiting activity inflicts too much economic pain and little sustainable gains in terms of health outcomes.

TABLE 1
Vaccine Efficacy: Waning over Time and Against Delta

	OBSERVATION PERIOD	TIME WHEN VACCINATED	INFECTION	HOSPITALIZATION	SEVERE INFECTION/ICU
Mayo Clinic	Jan-July		76%	85%	93%
	July		42%	75%	82%
Isreali Ministry of Health	July	Jan	16%	82%	82%
	July	Feb	44%	91%	91%
	July	Mar	67%	89%	94%
	July	Apr	75%	83%	84%
	July	Jan-Apr	39%	91%	88%

Where the virus is headed is important as the fate of the world economy continues to remain tightly tethered to the pandemic outlook. Subsequent waves have dented demand and thrown supply chains in disarray. But first order effects of repeated outbreaks, terrible as they are, have been further exacerbated by confused and confusing government actions across the globe, which have tended to further compound the misery. It has become painfully clear by now that treating the virus as a transient emergency that can be kept at bay by bolting doors, banning travel, and limiting activity inflicts too much economic pain and little sustainable gains in terms of health outcomes. Months-long national lockdowns and endless school closures are not only devastatingly pricey in terms of economic costs but also impossible to maintain for lengthy periods of time. It is infinitely better to direct resources and efforts towards policies that yield greater rewards with fewer costs, such as relentlessly pursuing higher vaccination rates or producing and distributing cheap, rapid and widespread COVID tests, rather than foolishly continuing policies that attempt to stamp out the virus down to its last case no matter the cost.

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Most governments seem to have learned these hard lessons over time, though at a glacial pace. As cases rose last winter and as Delta crashed around the world this summer, governments across the world adopted a lighter touch: Businesses stayed open; tourism flourished, and activity picked up. There are a few holdouts. Some governments have adopted a "zero-COVID" policy where a handful of cases trigger area-wide lockdowns, harsh quarantines and endless rounds of contact tracing. China is one of them. A single Delta case prompted a two-week lockdown of the Ningbo port in August and a quarantine of more than 50,000 people — 20 times the recorded number of infections. The port

of Yantian shut down for a few weeks in May, again due to a COVID outbreak. This has severely disrupted the already stretched supply chains: An ocean freight's trip from China to America now takes 70 days, up from 47 one year ago. Australia and New Zealand's borders have remained shut to the outside world for more than 18 months. New Zealand just recently announced an abandonment of the "zero-COVID" policy, but Australia is still contemplating a potential reopen by summer 2022 at the earliest. Disruption of trade and tourism has prevented their economies from growing at the rapid clip seen elsewhere: Australia grew by a paltry 0.7% in the second quarter of this year; New Zealand by 2.8%. As long as these draconian policies remain in place, supply constraints will persist, denting growth and fueling inflation.

We look forward to a day when the virus is so insignificant that it would only merit a footnote discussion (or nothing at all) in this report and we get back to the humble (and humbling) business of "pure" economic forecasting. Alas, that day is not here yet. Yes, the Delta variant appears to be on its way out: The seven-day moving average has dropped from 150,000 to a current 100,000. Hospitalizations are also down to two-thirds their level of early September. And vaccines continue to remain quite effective against Delta. But as long as the virus remains with us, lingering concerns about new mutations, their transmissibility and potential ability to evade the vaccines will always remain. Let's hope these concerns never materialize. In the words of Forrest Gump: *"My mama always told me that miracles happen every day. Some people don't think so, but they do."* Let's hope that the worst of COVID-19 is firmly behind us and that, by some stroke of good luck, we will break free from the clutches of this disease. A miracle, indeed!

As long as the virus remains with us, lingering concerns about new mutations, their transmissibility and potential ability to evade the vaccines will always remain.

Trying Our Sea Legs: Riding Out the Stallflation Winds

Lt. Taylor: "I'm here to try out my sea legs."
Forrest Gump: "But Lt. Dan you ain't got no legs …"
Lt. Taylor: "Yes … I know … I know …"
– Forrest Gump

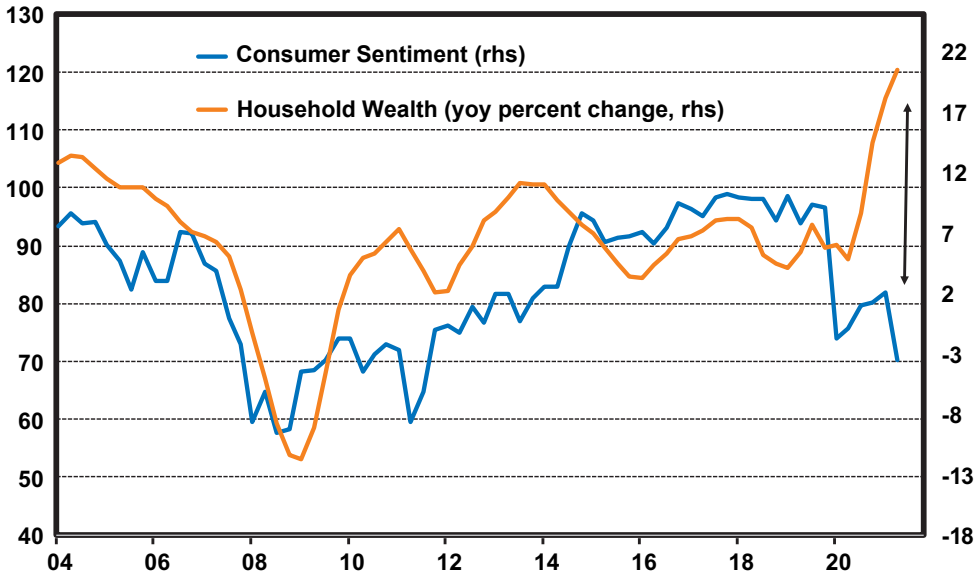
In *Forrest Gump*, Jenny Currant, Gump's childhood friend and love interest, asks whether he dreams as to who he was going to be. Gump's poignant (and somewhat innocent) reply is: *"Aren't I going to be me?"* Much like Gump, this recovery has shaped up to be uniquely and quintessentially itself, charting its own distinct course and bearing little resemblance to prior boom/bust cycles. A lot of this has to do with the nature of this pandemic: So much is unfamiliar and unpredictable about the virus that it has never been easy to make sense of where the economy is headed. Depending on where you look, the economy is either on the cusp of an unprecedented boom or teetering dangerously on the edge of a calamitous combination of slower growth and soaring inflation.

Indeed, various gauges of economic activity are giving mixed signals. Financial markets are skittish and uncertain: Bond yields rose dramatically during the spring when a burst in economic activity spurred by vaccines and a reopening of the economy led to a surge in inflation, only to fall back down in the summer when concerns about Delta took hold. Now, they have risen again, prompting a sell-off in equities, on fresh worries about fading monetary support. Consumer sentiment has tumbled: According to the Michigan University survey, it is the lowest since 2011, back when the

So much is unfamiliar and unpredictable about the virus that it has never been easy to make sense of where the economy is headed. Depending on where you look, the economy is either on the cusp of an unprecedented boom or teetering dangerously on the edge of a calamitous combination of slower growth and soaring inflation.

Eurozone crisis was brewing and the fiscal cliff loomed large (Figure 8). The Conference Board consumer sentiment is less terrifying, but just barely: In September, it slumped to a seven-month low indicating a pullback on big ticket item spending. Yet, other data are more upbeat: High-frequency indicators, such as restaurant bookings and Google mobility, though stalled, have only receded marginally as Delta spread across the country. And hard data have yet to reflect any meaningful Delta effects. Aside from the labor market, which added a measly 194,000 jobs in September, other hard data indicators are rather robust: Q2 real GDP came in at a hearty 6.6%; industrial production is growing at a robust pace of over 6% (year-over-year), and retail sales shot up by a jaw-dropping 0.7% in August even as Delta swept across the country.

FIGURE 8
Rich and Depressed: Household Wealth High; Consumer Sentiment Low
(consumer sentiment, level; household wealth, yoy percent change)



Amidst this muddled outlook, there is one unmistaken trend: Inflation has soared to levels last seen at least a decade ago and for some prices as high as four decades ago. Though we were among a handful of economists to warn about a potential inflation surge in our previous report, recent price spikes have caught many by surprise. In February, the median economic forecaster expected core inflation of 1.9% during this year. That projection has aged rather badly: In the three months to May, core inflation rose by 8.3% on an annualized basis, the highest since the early 1980s. The GDP deflator is running at a 6.2% year-over-year pace, the highest since 1981.

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But while virtually everyone agrees that the U.S. is in the midst of an inflationary bout, the debate has now shifted towards its durability: Will the spike prove to be temporary or enduring as it did half a century ago? The Fed (and many market analysts) insists it is transitory and inflationary pressures will dissipate once the chaotic reopening of the global economy is complete and supply chains start operating in a more orderly fashion. They are right on a few points. The reopening of the global economy from the pandemic slumber is a one-time event, and though it will be uneven, dragging longer in some parts of the world and less in others, at some point, the process will come to an end. It is also the case that some inflationary surge is cosmetic and should rightfully be dismissed: Base-year comparisons were always expected to boost inflation this year compared to 2020 when prices collapsed as the world shut down. Moreover, the early spike in prices was largely driven by a handful

of items, which have now moderated. A full one-third of consumer price inflation in June was due to a spike in used car prices, which had stalled by August. Lumber prices nearly doubled in the first half of the year only to tumble down by a third in August (they have edged upwards again recently).

The Fed is also fond of pointing to "anchored" inflation expectations as a sign that the current inflation spell is about to sputter as soon as the kinks of the post-pandemic recovery are worked out. The five-year breakeven inflation rate derived from constant-maturity Treasuries, though the highest in 15 years, remains anchored at around 2.6%. Blue Chip economic forecasts are penciling in an inflation rate of 4% for this year — a much more rapid clip than earlier — though they see it coming back down to 2% by the end of 2022. The Fed's own projections show an uptick to 3.7% this year and a deceleration down to 2.1% in 2022 and 2023. This is hardly the stuff of nightmares.

This cavalier approach to inflation is profoundly misguided, in our view. It has become painfully obvious by now that "transitory" factors have morphed into more sustained dynamics both on the demand and supply side, creating deep structural imbalances that are likely to deliver stubbornly high inflation for quite a while. Take supply disruptions: Purchasing manager's surveys show that delivery time delays have stretched to levels last seen in the late 1970s and quicker delivery means higher prices. The ISM survey registered the biggest price increase paid by manufacturers since 1979, a year when inflation rose by 13.3%. U.S. businesses have had to tread on unfamiliar terrain marked by severe shortages of everything, from chips to building materials as production lags both because of unexpected high demand and COVID-related supply disruptions. A survey by IHS Markit indicates that manufacturers' backlogs of work rose at a record rate in the spring. Since then, supply bottlenecks have gotten worse with businesses falling further behind in fulfillment of orders rather than catching up with unprecedented demand. Indeed, as the year wore on, supply bottlenecks have simply shifted from one part of the supply chain to another rather than easing.

Some of this has to do with unusual disruptions of supply chains unlikely to be repeated: The jammed container ship in the Suez Canal, a fire at a Japanese microchip factory and a winter storm in Texas combined for a string of bad luck that, taken in isolation, had the ability to disrupt but not derail supply chains. But problems run a lot deeper than a few freak accidents: Repeated port closures in China and shuttered factories in Vietnam and East Asia are likely to persist as long as the virus lingers, governments adopt a strict "zero-COVID" policy (as China has) and vaccination rates remain low.

Worse, unclogging supply bottlenecks for some items, such as semiconductor chips, is much harder than rejigging assembly lines for ventilators and hand sanitizers. These tiny parts can be found in the production of virtually everything from smartphones and game consoles to cars and washing machines. Car manufacturers are hit particularly hard from a dearth of chips partly because they misjudged the post-pandemic surge in demand and partly because they rely on older technology, which offers lower profit margins for chipmakers than high-end chips used in smartphones or cloud technology. Chipmakers have focused more on the latter both because it delivers higher profits and because of surging demand as locked down consumers splurged on computer and electronic gadgets, logged into meetings remotely and whiled away their hours streaming videos and video games. This means that woes for car manufacturers are likely to persist well into 2022, with some chip shortages forecasted to last into early 2023. And though new capacity is beginning to expand — Taiwan Semiconductor, Samsung and Intel are planning a combined $100 billion in new investments — relief will not be immediate as it takes time to set up new plants and expand production. Moreover, chip production is a rather intricate and multi-step process: It takes three to four months to turn a blank silicon into a final batch of chips.

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Supply disruptions alone would have stoked prices less were it not for unprecedented demand. Real final sales (which strip out exports and the inventory cycle) rose by a jaw-dropping 17.7% over the previous year (Figure 9). Consumer spending grew by 16% (year-over-year) in the second quarter — the highest in the post-war era. Business spending in CAPEX (capital spending) is soaring: New orders and shipments rose by 18.7% and 19.4% respectively in the second quarter. It should be noted that these numbers appear rosier than normal in large part due to last year's comparisons when consumption and investment spending tanked as the world slumped into the pandemic abyss. But even stripping away base-year comparisons, demand is running around three times hotter than the economy's potential to produce goods and services. A surge in prices was all but inevitable.

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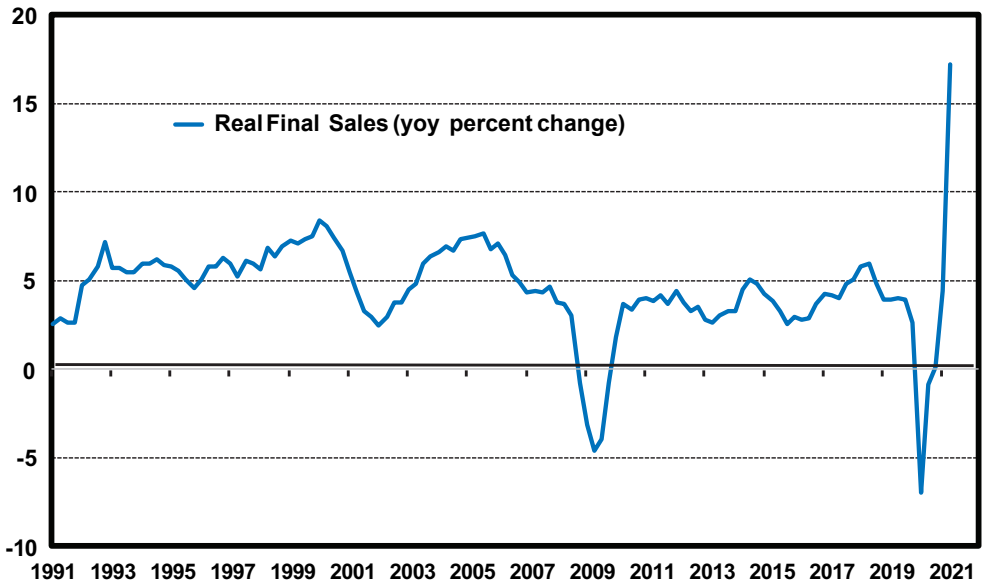
FIGURE 9
Here Comes the Boom: Unprecedented Demand
(real final sales, yoy percent change)



These imbalances will continue to persist, at least until the end of 2022. Soaring demand is unlikely to dissipate soon considering the massive liquidity sloshing around in the system from both fiscal and monetary support. A full $5.9 trillion in fiscal support has been doled out at various stages over the past 18 months — the highest in the post-war era. The Federal Reserve has gobbled up more than $4 trillion in Treasury and mortgage bonds, ramping up money supply growth to over 25%. It will take a while to burn through all that cash.

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Indeed, U.S. households have never been this rich. At a staggering $134 trillion, net wealth is now nearly 30% higher compared to pre-pandemic, thanks in large part to a booming housing and equity market. But because these gains tend to normally accrue to the well-off, garden-variety boom/bust cycles have ended up hurting those in the lower rungs of the income scale much more than those in the top. Not so in this cycle. The poverty rate actually dropped from 10.5% in 2019 to 9.1% in 2020 — a historical first in a recession — thanks to a myriad of stimulus checks, food stamps and tax credits extended to lower income households. From April 2020 to June 2021, there were on average 13 million unemployed people in the U.S. They collected a total of $780 billion in unemployment benefits or around $60,000 per person. Add to that the $3,200 in the three rounds of stimulus checks and the average unemployed person earned roughly around $63,200 during this period. For perspective,

around 25% (or 32 million households) generally earn less than $37,000 per year. There is no doubt that COVID-related relief has been a massive windfall for households in the bottom half of the income distribution. They also tend to have a much higher propensity to consume, which means that consumption will continue to remain strong over the forecast horizon.

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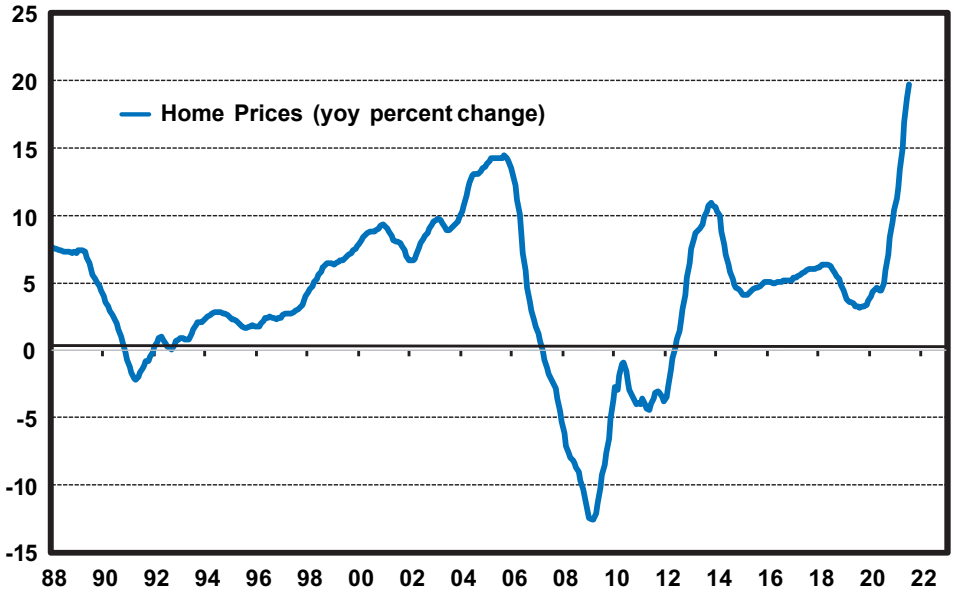
Ramped up demand and a dearth of supply seem to permeate every aspect of economic activity but perhaps nowhere is this phenomenon as acute as in the housing market. A surge in demand has been met with persistent low supply of new homes due to shortages of skilled labor, raw materials and developed land. Home prices have soared by 19.6% (year-over-year) according to the Case-Shiller national price index, the highest on record (Figure 10). Home inventories, though improved a bit compared to earlier in the spring, continue to remain at historical lows. The frenzy has abated a bit in the latest data: Existing and new home sales have been softer over the past few months as would-be buyers scale back their purchases faced with worsening affordability. We expect this trend to continue and for imbalances to slowly correct over the next two years as higher prices draw more sellers in the market and homebuilders ramp up construction.

FIGURE 10
Housing on a Tear: Home Price Appreciation the Highest on Record
(Case-Shiller home prices, yoy percent change)



Despite these anticipated improvements, the current surge in home prices has yet to fully hit inflation statistics. That's because home prices are not included in the CPI basket of goods. Instead, in the new CPI methodology, they are reflected indirectly through higher rents via distributed lags over the next three years. The measures of rent inputted in inflation statistics are expected to grow by as much as 6.9% by the end of 2023, presenting further upward risk for persistently high inflation. The labor market tells a similar tale of a surging labor demand as businesses scramble to keep up

with orders and flagging supply. At 11 million job openings, the number of unfilled positions has outpaced those unemployed by a staggering 2.5 million (Figure 11). Anecdotal evidence about firms' difficulties in filling positions abound: McDonald's is offering a $50 bonus just so people show up for a job interview; Amazon has added sign-in bonuses in the amount of $1,500. Wage growth has ramped up to nearly 4% (4.8% for job switchers) according to the Atlanta Fed, the highest since before the Great Recession. Wages have risen as much as 8.3% in the leisure and hospitality sector compared to February 2020. According to the New York Fed, the wage premium for median worker is now 3% higher relative to pre-pandemic; for low-wage workers, that premium has risen by an astounding 19%. Higher wages are expected to continue over the forecast horizon: The NFIB survey reports that the number of small businesses planning to raise wages are at a 30-year high. It is only a matter of time before this filters into higher inflation. Indeed, the NFIB survey also shows the largest share of businesses planning to raise prices in 40 years.

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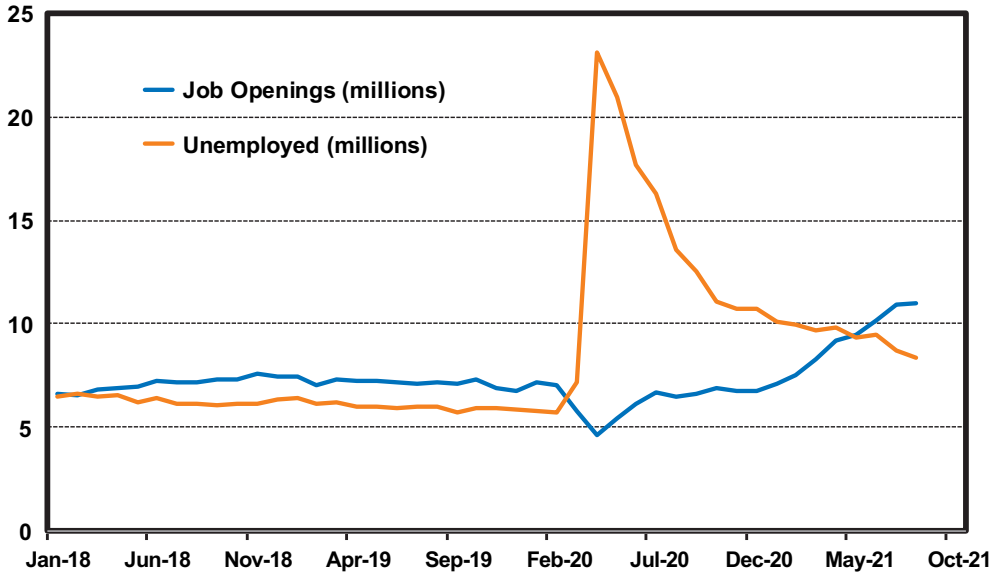
FIGURE 11
Where Have All the Workers Gone? Job Openings Surpass Unemployed
(job openings, unemployed, millions)



Prospects for growth have also dimmed somewhat compared to earlier in the year. Some of this is expected: Peak growth is behind us for the very simple reason that a reopening economy was bound to be accompanied by an initial unprecedented bounce in economic activity. Growth in the third quarter of last year came at a staggering 33.8% — almost double the pace of the highest quarter in the post-war era. It levelled off to 4.5% in the fourth quarter as the third and deadliest wave of COVID 19 spread around the country, but it picked up in the first half of the year, registering a robust 6.3% and 6.7% in Q1 and Q2, respectively, as vaccination rates ramped up. As expected, real GDP regained its previous pre-pandemic peak in the second quarter of this year. But reopening and vaccines are one-off events, which means the unprecedented boost they provided is unlikely to repeat itself.

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The second half of the year is also shaping up to be worse than the first, due in large part to the spread of Delta, which stormed the country during the summer months. As of end-July, the Atlanta GDP Now index, a high-frequency measure that captures real GDP in real time, calculated that growth in the third quarter would be a hefty 6.1%. Market expectations were an even loftier 8.5%. That figure has come crashing down to a pitiful 1.3%, as of this writing. Though we reckon the final figure will turn out to be higher — we expect a rate of 3.2% — it is undeniable that growth has shifted into lower gear. The approach of winter may bring about a potential virus flare-up as people migrate indoors where the disease can spread more easily. That is what happened last winter, and though vaccines have greatly changed the trajectory of the virus so that subsequent waves are successively less deadly and less damaging to economic activity, COVID-19 will continue to remain a background risk as long as it lingers.

Other headwinds are also likely to sap away some of the recovery's early formidable strength. Bumper corporate profits are already in the bag: Net profits for the second quarter came at 12.3%; revenues at 25% — both the highest on record since 2008. But these figures are hard to repeat: Rising costs of key inputs and stronger wage growth — the bulk of firms' expenses — will likely squeeze profit margins going forward.

Issues on the policy front will also weigh on the recovery. Lavish fiscal support has come to an end, and though this development is welcome lest it sows seeds of further imbalances, its withdrawal will subtract from growth in a purely accounting sense. More drama is yet to play out on the fiscal front: A potential government shutdown and a debt-ceiling debacle have simply been postponed until December. The Fed will need to perform a high-stakes high-wire balancing act trying to taper without the tantrum. Such a graceful exit is rarely well executed (as the last taper shows) and usually comes with frequent bouts of market panic.

But by far, the biggest impediment to growth, at least over the next year, will be supply constraints. As we have argued in this report, clogged ports, gummed up global supply chains, increasingly lengthy shipping times and investment in expansive semiconductor infrastructure are unlikely to be resolved overnight. More concerning, especially for the service sector, is that labor supply shortages will likely persist. There is no denying that there is ample labor slack: Employment is still around 5 million below February 2020, while the labor force has shrunk by an additional 3 million. Yet, despite abundant evidence of a bumper labor demand, many are reluctant to re-enter the labor market.

There are good reasons to think that this situation will not be resolved quickly. Many older workers have left the labor force for good. Retirements are spurred both by COVID-related fears and by a more comfortable personal financial situation as frothy stock markets and soaring home prices boost wealth levels and pension pots. Indeed, the labor force participation among those 65 years and older has shrunk by nearly two percentage point since COVID struck. That translates to around

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2.6 million retirees. Of these, roughly 1.1 million would have retired regardless of the pandemic given normal retirement trends. This means that the pandemic did accelerate the retirement of roughly 1.5 million workers, a non-negligible figure at a time when labor demand is quite high (Figure 12).

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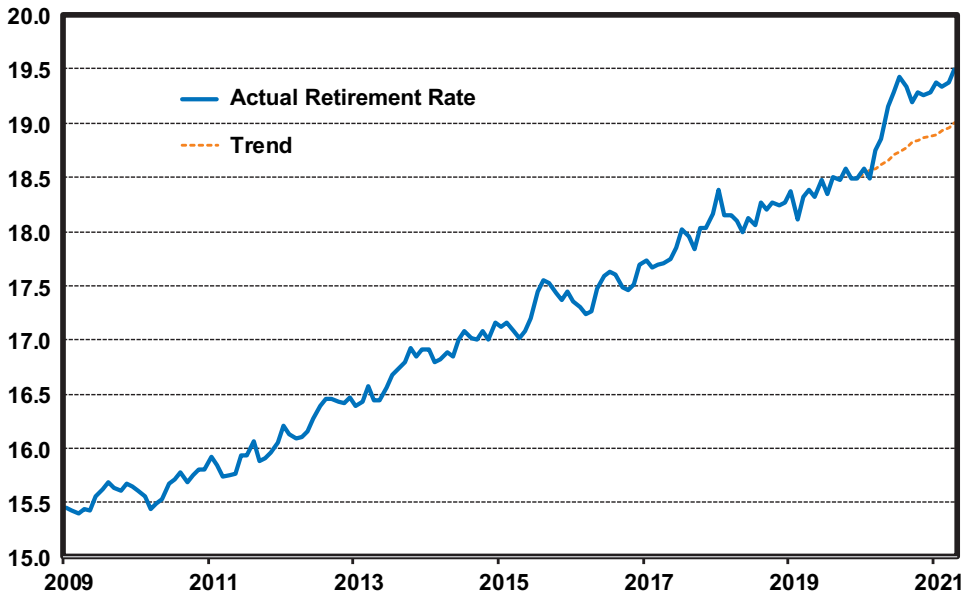
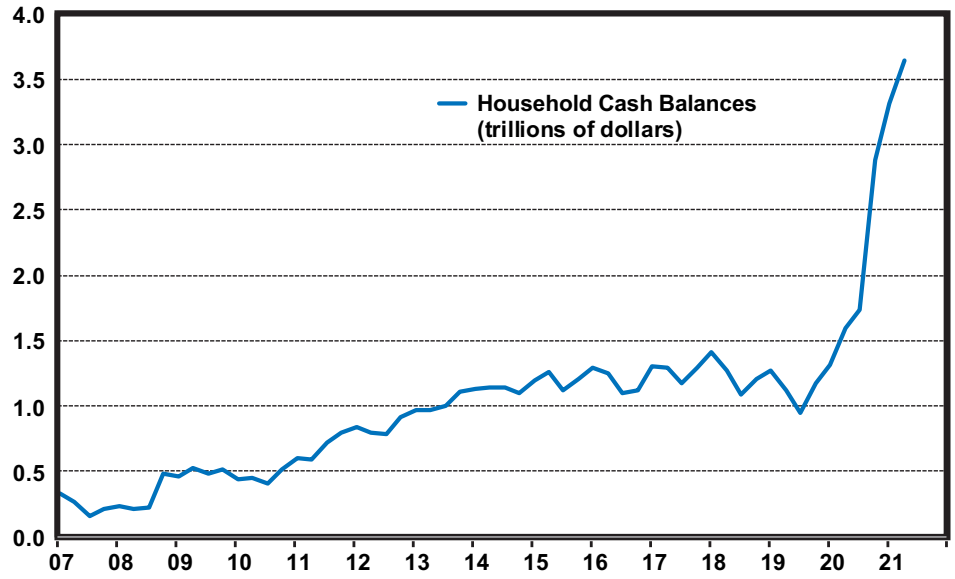
FIGURE 12
So Long Work: Retirements Are Ramping Up
(percent of population retired)



Others report a variety of reasons keeping them away from the labor market. A full 3.2 million people in the latest Census Household Pulse Survey reported not going to work due to fears of getting or spreading the virus. Though this is below the 5.5 million number back in January, it is still uncomfortably high and a sign that it may be persistent as long as the virus remains in the background. An additional 4.4 million report being out of the labor force due to childcare. Some are simply in no hurry: Having amassed a powerful war chest due to the many rounds of stimulus, generous unemployment benefits and forced savings throughout the pandemic, there is ample cushion to delay returning at the workplace. The Federal Reserve reports that bank deposits have soared by $2.3 trillion since the pandemic and even the end of unemployment benefits did not see an immediate rush to the

labor force (Figure 13). Some others are re-evaluating their career choices having found more space during the pandemic to do so. According to a Dallas Fed survey, a full 32% of workers do not intend to return to their previous jobs — a significant uptick compared to 20% reported one year ago. This type of structural unemployment takes a while to clear, which means that the worker deficit has some enduring power.

FIGURE 13
Awash in Cash: Household Checking Deposits at Record High
(trillions of dollars)



These headwinds notwithstanding, our view is that this continues to remain a strong, durable and resilient recovery. The economy should be able to withstand the "stallflation" winds and continue to grow over the forecast horizon — a bit more hesitantly over the winter months and more confidently next spring. Consumer spending, residential construction and business investments will all add to growth. The end of lavish unemployment benefits and lack of additional stimulus will prod reluctant workers back into the labor force — if not now, perhaps soon as the cash stockpile starts running low. The labor market will likely eclipse its pre-pandemic level by the end of 2022, growing by an average monthly pace of 510,000 jobs this year and 320,000 in 2022. Real GDP growth is expected to come at a robust 5.6% in 2021 and 3.8% next year. In the wishful words of Jenny Currant: "*Dear God, make me a bird so I can fly far. Far, far away from here.*" Let's hope the headwinds blow a bit more softly and tailwinds a bit stronger carrying forward a speedier and more buoyant recovery.

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The Visible Hand: Monetary and Fiscal Policy in the Shadow of Debt

"Stupid is as stupid does."
– Forrest Gump

There is a scene in the movie *Forrest Gump* when Lieutenant Dan Taylor, Forrest Gump's platoon leader, asks with somewhat feigned solemnity, "*Have you found Jesus yet, Gump?*" In genuine confusion, Forrest Gump responds, "*I didn't know I was supposed to be looking for him, sir.*" Unlike Gump, the Fed appears to have been looking for inflation but has come up empty handed time and again. Or, to be more precise, whatever inflation it has found, it has chalked up to some ephemeral qualities such as fleeting, transitory or temporary. So far, it has managed to convince market participants of its view: The 10-year Treasury yield though higher than in the summer is still hovering around 1.6% and market-implied measures of inflation though at decades-high continue to remain relatively subdued.

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This Panglossian view of the world is wearing quite thin as stubbornly high inflation continues to persist stoking fears not only for the current environment but well into 2022. Indeed, the Fed has had to grudgingly and half-heartedly acknowledge this reality admitting that the spike in inflation is proving to be larger and longer lasting than it expected. Its June projections included the biggest upward revision of inflation figures in decades. Rate projections released in September showed that half of the 18 Fed officials expect to raise interest rates by end 2022; in March, only four expected to do so.

The worry is that excessive monetary and fiscal policy are further fueling inflationary pressures, entrenching the gap between rampant demand and constrained supply. The Fed is still purchasing $80 billion in Treasury securities and $40 billion in mortgage-backed securities (Figure 14). That may have made sense during the dark days of the pandemic when the world seemed in free-fall, markets panicked and bond rate shot up. But bond purchases seem particularly strange now when demand is soaring instead of faltering and more than $750 billion in excess reserves is parked at the New York Fed's overnight repo facility mopping up some of the liquidity induced by quantitative easing (QE). Purchases of mortgage-backed securities when the housing market is so overheated are downright bizarre.

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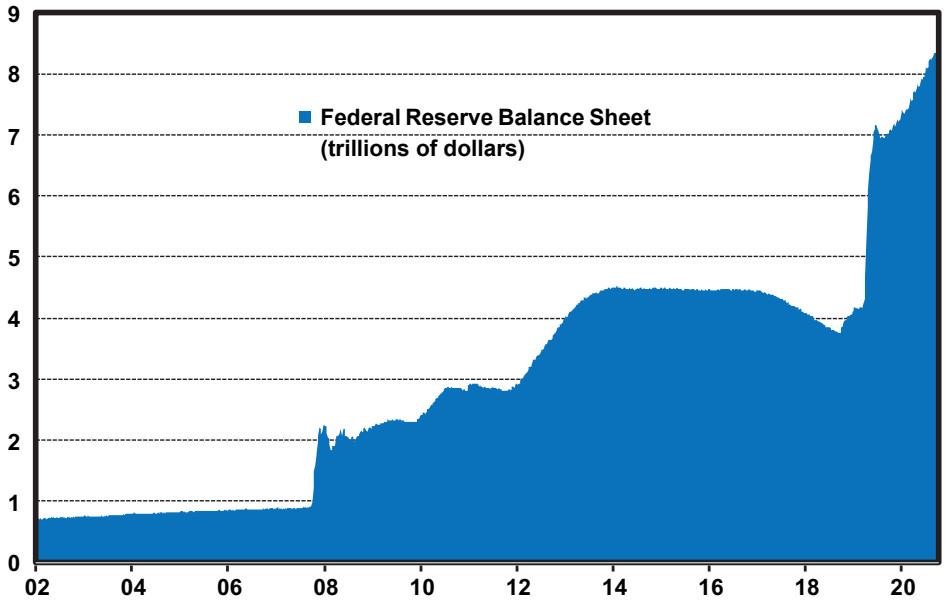
Purchases of mortgage-backed securities when the housing market is so overheated are downright bizarre.

FIGURE 14
To the Infinity and Beyond: The Fed Balance Sheet Has Exploded
(trillions of dollars)



The Fed seems to have come around to the view that the time to taper is at hand. In its latest September meeting, it indicated that it has "started thinking about thinking" about unwinding its massive QE program, likely announcing the contours of a plan in November and beginning to taper in December. At the same time, it went to great lengths to explain that it considers asset purchases and interest rate decisions two very distinct operations, severing the perceived links between the two in an attempt to stave off taper-tantrum effects a la 2013.

Our view is that the Fed will stay true to its word and begin to taper in December, reducing purchases of U.S. Treasuries by $10 billion per month and mortgage-backed securities by $5 billion. This means that the unwinding would be completed by the middle of next year — a pace that is dramatically slower than it should be given current inflationary pressures. Indeed, the Fed seems to be woefully behind the curve and risks are rising that it will need to tighten faster and a lot more aggresively than it wishes, should it continue to remain this tolerant towards price build-ups. Sure, inflation expectations are anchored for now, but the fight against inflation is significantly tougher when they become unmoored. History is replete with examples that inflation expectations become unglued not when things are about to break bad, but after they already have.

The Fed seems to be woefully behind the curve and risks are rising that it will need to tighten faster and a lot more aggressive than it wishes should it continue to remain this tolerant towards price build-ups.

But perhaps the biggest concern is the acknowledgment that current monetary policy lives in the shadow of debt. Should inflation expectations become de-anchored, interest rates would need to rise dramatically prompting a bruising recession similar to the early 1980s. But the pain would be much more profound now given the massive amount of public debt. Back then, the ratio of debt-to-GDP was a puny 25%. It has more than quadrupled now to a staggering 103%. A one percentage point rise in interest rates translates to roughly an additional $240 billion in interest payments. Should interest rates rise to say, 4% — far below 1980s level — interest payments on the debt will skyrocket by a jaw-dropping $1 trillion, on top of a current nearly $400 billion. Will the Fed be able to withstand the political pressure and the public outcry that will undoubtedly follow? Something tells us this is one question the Fed fervently wishes it never has to find the answer to.

The biggest concern is the acknowledgment that current monetary policy lives in the shadow of debt. Should inflation expectations become de-anchored, interest rates would need to rise dramatically prompting a bruising recession similar to the early 1980s. But the pain would be much more profound now given the massive amount of public debt.

Fiscal policy presents its own risk. Over the course of 18 months, since the pandemic hit, the U.S. has spent an unapologetic $5.9 trillion (26% of GDP), the largest in post-war era, all through deficit-financing. By comparison, the $787 billion (5.3% of GDP) American Recovery and Reinvestment Act passed at the height of the financial crisis, appears puny. Having done far too little during the Great Recession, there is no doubt the government is doing far too much now.

Gargantuan fiscal support, while vital at the height of the crisis, is rather harmful now. It has further widened the imbalances that were bound to pop up when the economy reopened after a once-in-a-century pandemic. It has stoked demand and distorted labor market incentives precisely at a time when it is most costly. And a lot of money was simply wasted. More than 90% of jobs at firms that received PPP loans would have been preserved anyway, a new study finds (Chicago University Booth Business School). Lavish amounts of money — $512 billion, to be precise — went to state governments to stave off budget squeezes that never happened. In May 2020, California projected an eye-popping budget shortfall of $54 billion dollars — the largest in history. By January, that had turned into a budget surplus of $15 billion, which ballooned to a surplus of $75 billion by June, a remarkable turnaround. And this does not account for the nearly $42 billion in COVID relief it received since the pandemic hit.

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The spending bonanza is not over. As of this writing, the legislative agenda is the busiest it has ever been. Congress has gone into a frenzied overdrive trying to negotiate two new mammoth pieces of legislation: a $1.2 trillion bipartisan infrastructure package and a $3.5 trillion reconciliation bill laden with progressive wish-list ideas. The two bills are dramatically different yet yoked together by political necessity: Republicans are willing to vote for the first but not the second. This leaves Democrats to go alone on the second bill but Democratic cohesiveness has broken down along progressive and moderate lines, with moderates arguing that $3.5 trillion is excessive and progressives threatening to torpedo both bills should the reconciliation package fail to pass.

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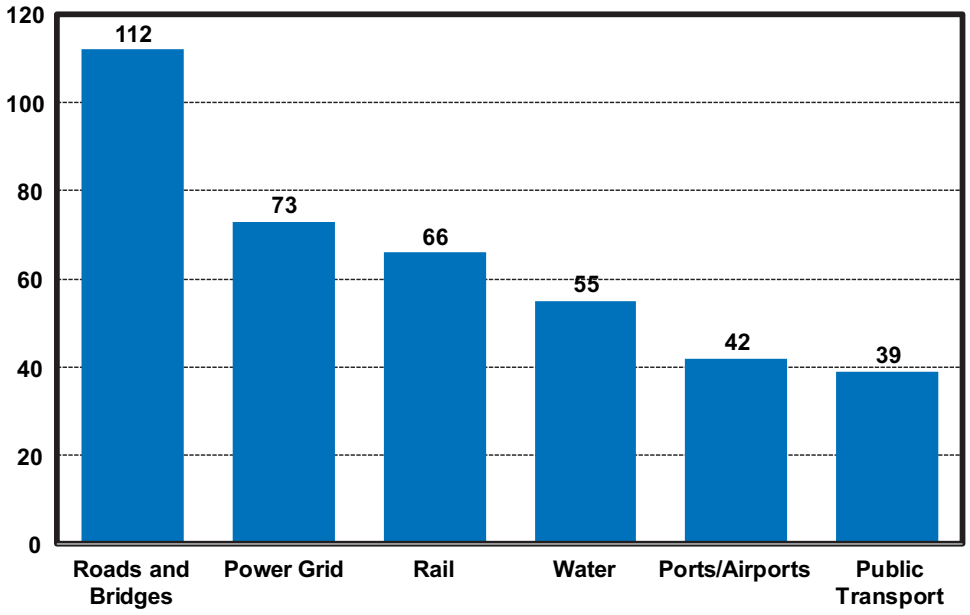
The "hard" $1.2 trillion infrastructure bill has only around $554 billion in new spending spread over eight years — the remainder simply reauthorizes spending that is already underway. The bill includes $112 billion in funding for roads and bridges, $73 billion to update and expand the power grid, $66 billion for railroads, $65 billion for universal broadband access, $55 billion for clean drinking water, $42 billion for ports and airports, $39 billion for public transit, $7.5 billion for a national network of charging stations for electric vehicles and $7.5 billion for low-emission buses and ferries (Figure 15). Democrats and Republicans say the spending would be paid for with a mix of sources including unused pandemic-relief money ($200 billion), unspent unemployment benefits ($50 billion) and changes to prescription-drug rules ($50 billion). The rest of the funding comes from less certain sources: an estimated $30 billion from information-reporting requirements for cryptocurrency, $60 billion from dynamic scoring (economic growth from the additional spending) and $87 billion from sales of wireless spectrum space. The non-partisan Congressional Budget Office — the official scorekeeper — reckons the bill will widen the budget deficit by around $250 billion over 10 years.

FIGURE 15
The Ins and Outs of the "Hard" Infrastructure Bill
(billions of dollars)



The details on the sweeping $3.5 trillion package of "soft" (human) infrastructure have yet to emerge, though it will likely contain similar ideas to the $1.8 trillion American Families Plan proposed by the Biden administration in April. Among the bill's most expensive provisions appears to be the extension of the $3,000 - $3,600 child credit which is slated to cost around $1 trillion over the next decade. Child-care provisions will cost roughly $90 billion but only for five years from 2022 to 2027. The full cost over 10 years

will likely be a heftier $200 billion. An additional $300 billion is to go to universal preschool for all 3- and 4-year-olds. There are additional provisions for free community college, expanded coverage for dental, vision and hearing benefits under Medicare, funding to combat climate change, lowering of prescription drug prices, and a whole host of other initiatives. Due to its still many elusive parts, it is difficult to score the size of the package. The Committee for a Responsible Federal Budget pegs its real cost at around $5 – $5.5 trillion.

The details are hazy and the math to pay for this largesse even fuzzier. It will mostly be paid by a slew of higher taxes, but the details need to be ironed out. Mr. Biden has proposed increasing the corporate tax rate to 28% from 21%, introducing a 15% minimum tax on corporations "book income," and increasing the global minimum tax on foreign earnings to 21% from a current 10.5%. The proposal also calls for increasing the top individual tax rate to 39.6% (from a current 37%), raising the top capital-gains tax rate to 43.4% from 23.8%, and levying a 3% surcharge on individual income above $5 million. Our expectation is that Congress will manage to cobble a deal for both proposals though the scope of the reconciliation package is likely to shrink substantially to a more reasonable, though still high, price tag of around $2 trillion to $2.2 trillion.

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When Forrest Gump's beloved and tenacious mother was on her death bed, she shared with her son her take on destiny: "*I happen to believe you make your own destiny, you have to do the best with what God gave you.*" After 18 months of unprecedented fiscal and monetary support, it is time for the economy to stand on its own, doing its best with its intrinsic strength, resilience and dynamism. We believe it can ride out the headwinds if given the chance without continued government prodding and meddling. It is time for it to chart its own destiny.

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ORANGE COUNTY AND SOUTHERN CALIFORNIA

COVID Epilogue?

It is no exaggeration to say that we are still living in the shadow of the pandemic, where the virus continues to drive economic activity, less so before but still more than what we had hoped would be the case by now. This is true not only for the nation, as the above narrative shows, but also for California and the local economies. The state and the region began to recover when the virus ebbed after the Great Shutdown of March–April 2020, only to be walloped by a second and then a third wave in the winter which was significantly deadlier and more destructive than the first. A fourth wave came crushing this summer as the Delta variant emerged.

After a dismal start of the year when COVID ravaged the state, California has braved the Delta wave much better than, say, Texas and Florida, with fewer cases and deaths. (Figures 16a–16b). More encouragingly, as of this writing, infection rates have started to come down as Delta wanes, with the state showing 17 new cases per 100,000 people, half of what was recorded one month ago. Other states have also seen a precipitous decline in the number of infections, with Florida recording only 24 infections per 100,000 at the end of September, down from a high of 120 early in the summer.

After a dismal start of the year when COVID ravaged the state, California has braved the Delta wave much better than, say, Texas and Florida, with fewer cases and deaths.

Orange County, thankfully, has also performed better than the rest of the Southern California counties as Delta swept the region this summer (Figures 16c–16d). This reflects, in large part, the simple fact that Orange County has vaccinated the large majority of its adult population, leading the region in vaccinations. As of early October, the vaccination rate in the county among adult population, stands at 71.3%, higher than in Los Angeles County (69.5%), Riverside County (59.1%), San Bernardino County (56.9%) and San Diego County (58.2%). The good news is that the Delta variant appears to be on its way out in the Southern California region, as well: Infections, hospitalizations and deaths have all declined and appear to be past their peak.

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FIGURE 16A
Delta Wave: CA in Pretty Good Shape Relative to FL and TX
(COVID infections per 100K, 7-day moving average)

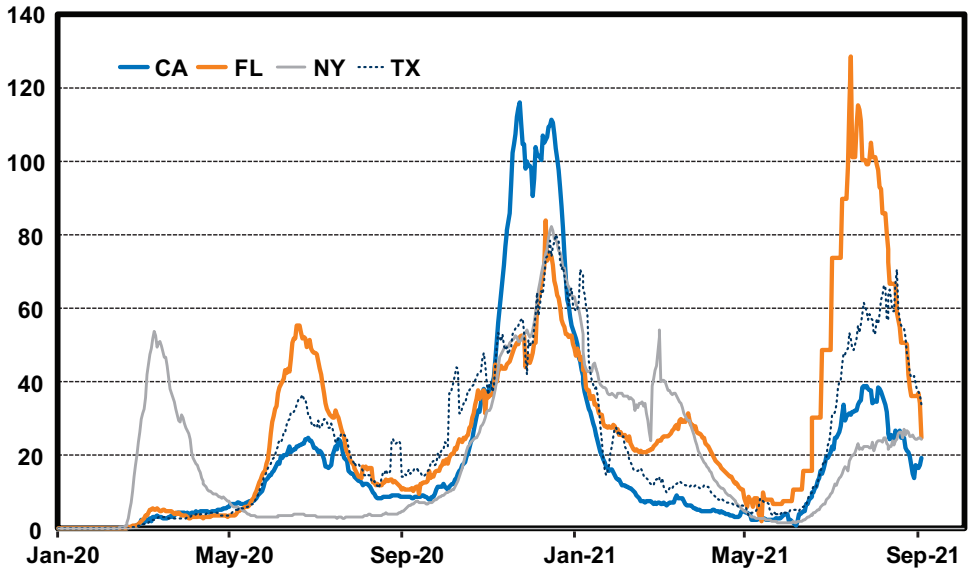


FIGURE 16B
Delta Wave: CA Deaths Fewer than During the Winter Wave
(COVID deaths per 100K, 7-day moving average)

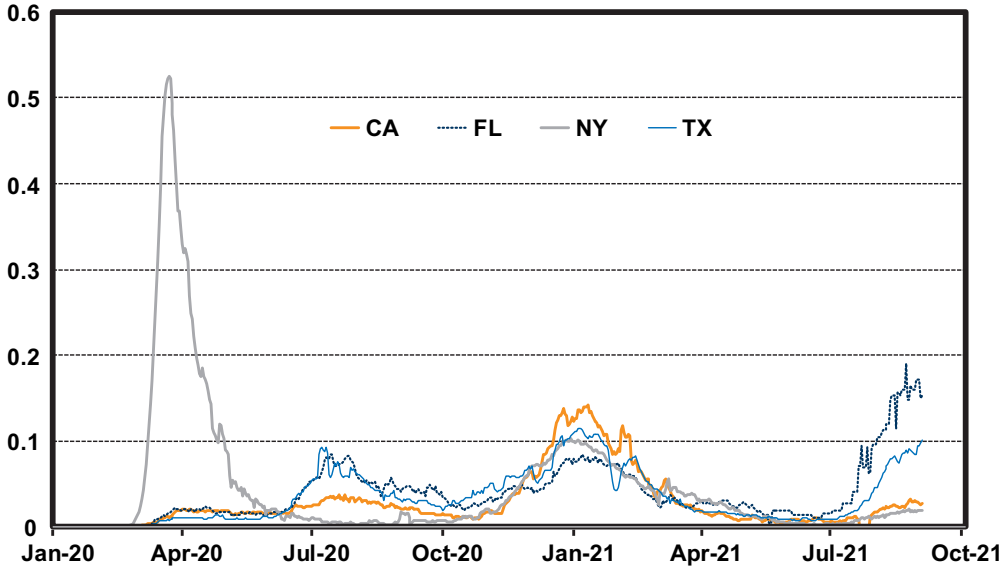


FIGURE 16C
Delta Was Just a Blip: SoCal Infections Have Come Down
(COVID infections per 100K; 7-day moving average)

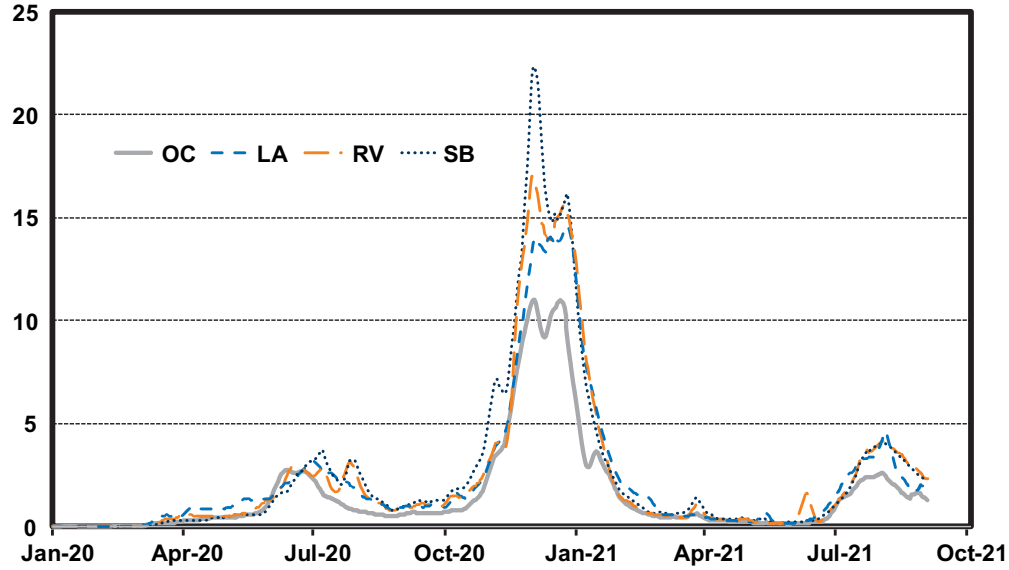
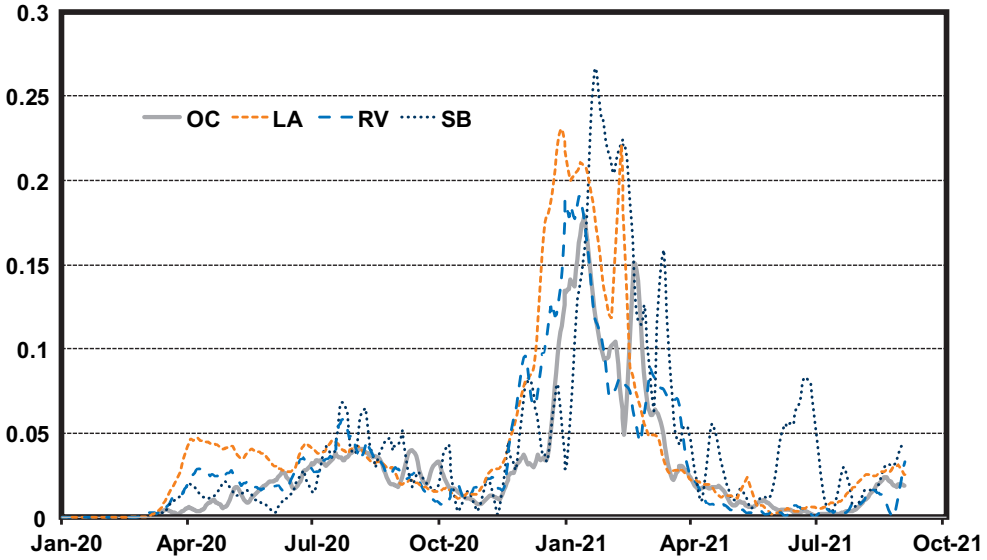


FIGURE 16D
Mercifully, Fewer Deaths Due to Delta Across SoCal
(COVID deaths per 100K; 7-day moving average)



Though COVID will likely not be permanently eradicated any time soon, but become rather endemic, our view is that it may no longer present an ever-looming threat to the economic outlook. As long as no new variants emerge and the vaccination rate continues its slow but steady uptick, supplemented by booster shots, the outlook will be much brighter. We are not quite there yet, but if vaccination rates continue apace, we will likely get the much touted "herd resiliency" by mid-2022. Indeed, given robust vaccination rates in Orange County and Southern California, we expect the recovery in the region to gather more steam than in the rest of the country. Putting the virus behind us is especially important for employment growth, which began to sag during the summer months due to the spread of the Delta variant.

Employment and Demographics

Following the path of the labor market recovery in the region over the past year is a journey of many twists and turns. After the sudden and almost complete shutdown in March–April 2020, the economy roared back from June through November 2020, as consumption picked up, businesses reopened and the region arose from its pandemic slumber. All this came to a screeching halt during the winter months as the state and the region were hit by a titanic-sized wave of infections, hospitalizations and deaths. Government edicts were put in place, akin to those earlier in the year, with gyms, bars, restaurants and other high-contact businesses ordered to close down again.

The outlook improved dramatically early in spring 2021 as vaccination rates picked up and coronavirus cases, hospitalizations and deaths declined significantly. Limitations on business and economic activity were lifted. The economy started to open up, consumers began venturing out and employers commenced hiring again. Alas, the burst of activity was stalled a bit by the Delta variant, but the good news is that it is now poised to pick up again.

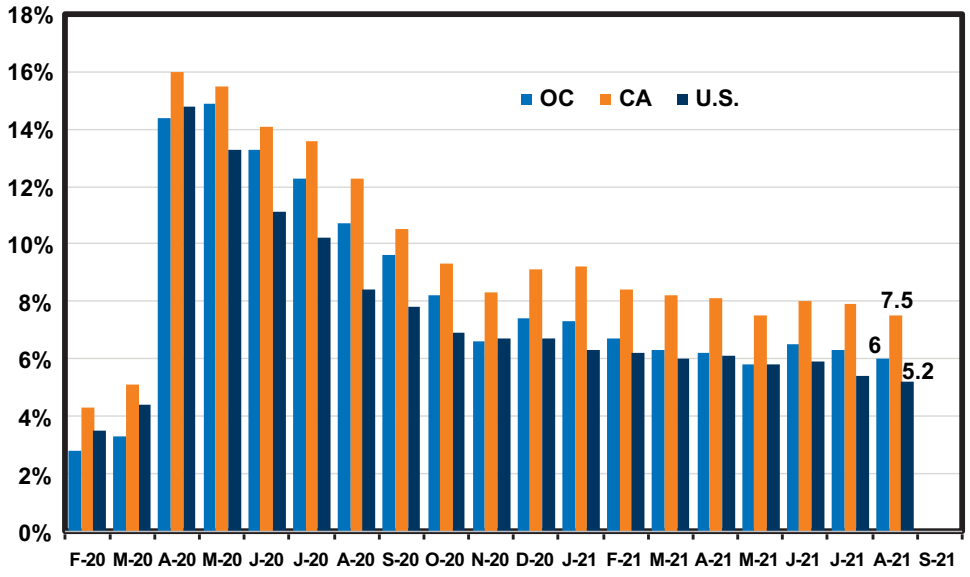
As one might expect, employment in both the state and Orange County is tightly tethered to the virus outlook, following closely the trends of the disease. According to the household employment survey, total employment in Orange County rose from a pandemic-low of 1.29 million in May 2020 to 1.43 million in November 2020 only to fall to 1.41 million in January 2021. Since then it has improved to 1.49

million as of August 2021 (latest available data), albeit growing at a slower rate in the last three months than earlier in the year. For California, household employment rose from 15.53 million in May 2020 to 17.50 million in October 2020 only to fall to 16.96 by December 2020. It has recovered to 17.55 million as of August of this year but, again, at a much slower clip than earlier in the spring.

The unemployment rate has declined rapidly since spring 2020 when the world shut down, but still remains higher than normal indicating plenty of slack. The unemployment rate for Orange County stood at 6% in August 2021 (latest available data) — a significant improvement compared to an eye-popping 14.9% in May 2020, at the height of the lockdown (Figure 17). Orange County labor force participation — the percentage of people in the labor force either having or looking for a job — has improved over the year but continues to remain below its pre-pandemic level by around 36,400 workers — a full 2.3% lower. Similar to the nation, a portion of the labor force may have withdrawn for a considerable time, due to retirements, parental duties or other family obligations, dragging the rebound in the labor market longer than what would be expected in a normal recovery.

The unemployment rate has declined rapidly since spring 2020 when the world shut down, but still remains higher than normal indicating plenty of slack.

FIGURE 17
CA and OC: Lagging the Labor Market Recovery in the Nation (unemployment rates, percent)



California's labor force has shrunk by an astounding 450,000 during the pandemic and is currently 2.3% below its February 2020 levels. The unemployment rate stands at 7.5% compared to a high of 16% in May 2020. Though improved, the state lags significantly behind the nation. In fact, it has the unique distinction of having the second highest unemployment rate in the U.S. behind New York (7.7%). This is due, in large part, to COVID-related restrictions implemented by the state, which were significantly tighter in California than in other states. It is also the case that the state has a large leisure and hospitality sector — more so than most other states in the union bar Nevada and Hawaii — which was severely impacted by the pandemic.

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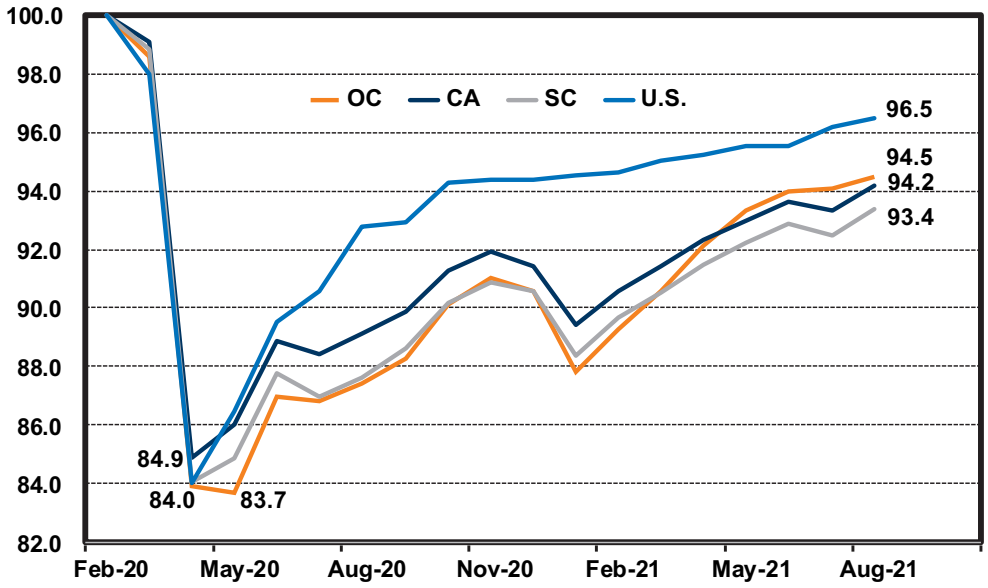
California has so far recorded a total of 175 deaths per million, lower than Florida (256 per million) and Texas (225 per million). But the unemployment rates for Texas and Florida are significantly below California's at 5.8% and 5%, respectively. Some states have managed to deliver superior performance both in terms of economic and health outcomes: Ohio has 188 deaths per million while its unemployment rate stands two percentage points below California's. North Carolina has recorded 158 deaths per million, and its unemployment rate is an enviable 4.3%.

The establishment survey, a different measure of employment, provides a more reliable and detailed look of the overall employment picture while also reflecting a more granular sectoral view. As of August (latest available data), Orange County payroll employment is 1.59 million — a full 182,000 above May 2020. Nonetheless, this is still 93,000 jobs below the pre-pandemic level of February 2020. On an annualized basis, the payroll employment grew by 1.3% in 2019, fell by 8.9% in 2020, and is growing at an annual average rate of 1.5% through August 2021. The picture looks more heartening when comparing year-over-year levels — from August 2020 to August 2021 — with a gain of 119,400 jobs, an 8.1% increase. However, the pace of growth has slowed to a trickle over the past three months, as the Delta variant spread across the county and supply bottlenecks put pressure on growth. The average pace of month-over-month growth is 0.43%, less than one-third of the 1.5% rate recorded from April to May.

The pace of job growth in Orange County has slowed to a trickle over the past three months, as the Delta variant spread across the county and supply bottlenecks put pressure on growth. The average pace of month-over-month growth is 0.43%, less than one-third of the 1.5% rate recorded from April to May.

The Southern California region (Orange, Los Angeles, Riverside, San Bernardino, Ventura and Imperial counties) added a robust 475,300 jobs — rising by 6.6% — over the last 12 months, but the overall growth, following the pattern of Orange County, has slowed in the last three months. Overall, Orange County's labor market recovery has lagged behind the nation — by a significant margin — but it has managed to outperform the rest of Southern California (except Inland Empire) and the state. While employment rolls are 3.5% below pre-pandemic in the U.S., they languish by 5.5% below for Orange County, by nearly 6% for the state and by 6.6% for the broader Southern California region (Figure 18).

FIGURE 18
OC Employment: Worse than the Nation but Better than CA and SoCal
(payroll employment, index, Feb. 2020=100)



As is expected with an uneven recession and recovery, Orange County job growth has been quite lopsided, with three sectors standing out over the past 12 months. The leisure and hospitality sector, which was devastated by the pandemic lockdown, gained 66,000 jobs for a 47.8% increase from August 2020 to August 2021. Professional and business services gained 13,000 jobs for a 10.1% gain. And trade, transportation and utilities grew by 11,200 jobs for a 4.7% gain.

For the state as a whole, total payroll employment over the last 12 months has grown by 889,000, for a 5.7% gain. The sectoral view mimics that of Orange County: The sharpest growth occurred in the leisure and hospitality sector, which gained 372,000 jobs (a 28.1% gain). The next three best performing sectors were professional and business services with 156,600 jobs (or 6.1% gain); trade, transportation and utilities with 104,000 (or 3.7%); and education and health services with 81,300 (or 5.3%).

"Demography is destiny," said the French philosopher Auguste Comte. Population growth is a major factor in economic growth, and its trend has implications for future employment and income growth. Over the last 10 years, the county's population growth has slowed down from 1.2% in 2010–11 to an outright decline of -0.1% in 2019–20. It's the lowest in a decade, with the trend beginning in 2017. Orange County's slower population growth can be attributed to a larger domestic out-migration to other counties and states and to lower immigration rates since 2016.

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The 2020 Census offers us an updated view of what Orange County looks like today. With a population of nearly 3.2 million (California's population is 39.5 million, and the U.S. population is 328 million), the county remains the third largest in California after Los Angeles and San Diego counties. Its socioeconomic data (Figures 19a–19d) help us construct an overall picture of the county. Orange County is reputed to be a wealthy county, and the latest data bears that out: 17% of the county households earn over $200,000 per year while 31.2% earn between $100,000 and $200,000. Only 25% earn less than $50,000, a much lower proportion than that of the state (31.7%), and the nation (38.4%). Orange County is also known for its notoriously high housing prices. A full 20.8% of single-family homes cost more than $1 million, while only 18.2% of such housing is priced below $500,000, making housing affordability an enduring issue.

FIGURE 19A
A Wealthy County: OC Median Income Higher than U.S. and CA (median income, 2019 dollars)

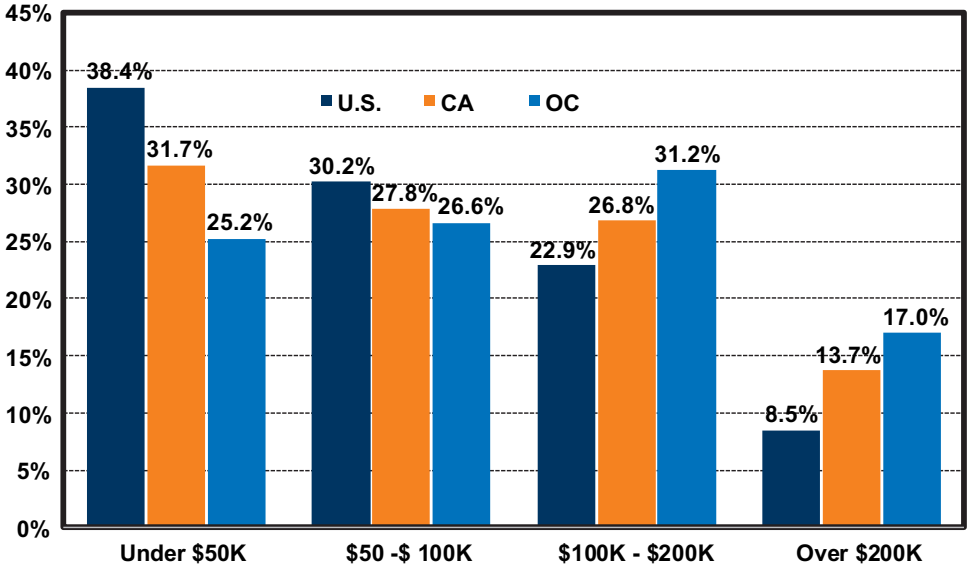


FIGURE 19B
A Wealthy County: OC Median Income Higher than U.S. and CA
(median income, 2019 dollars)

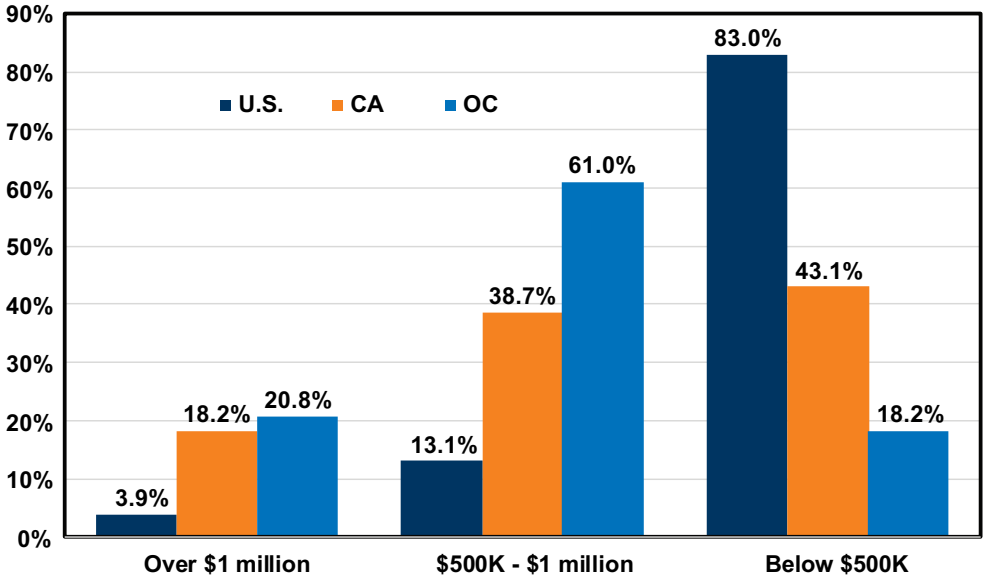


FIGURE 19C
A Wealthy County: OC Median Income Higher than U.S. and CA
(median income, 2019 dollars)

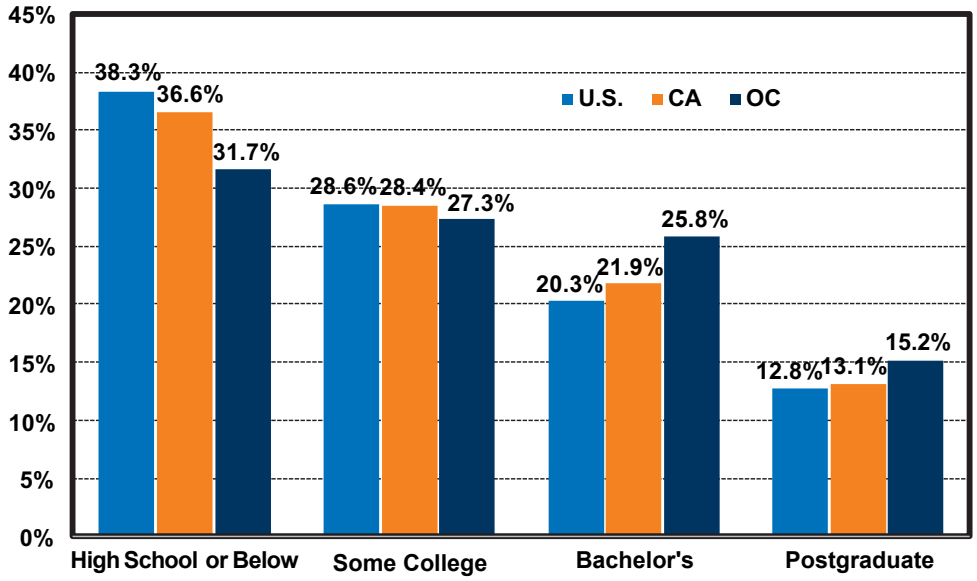
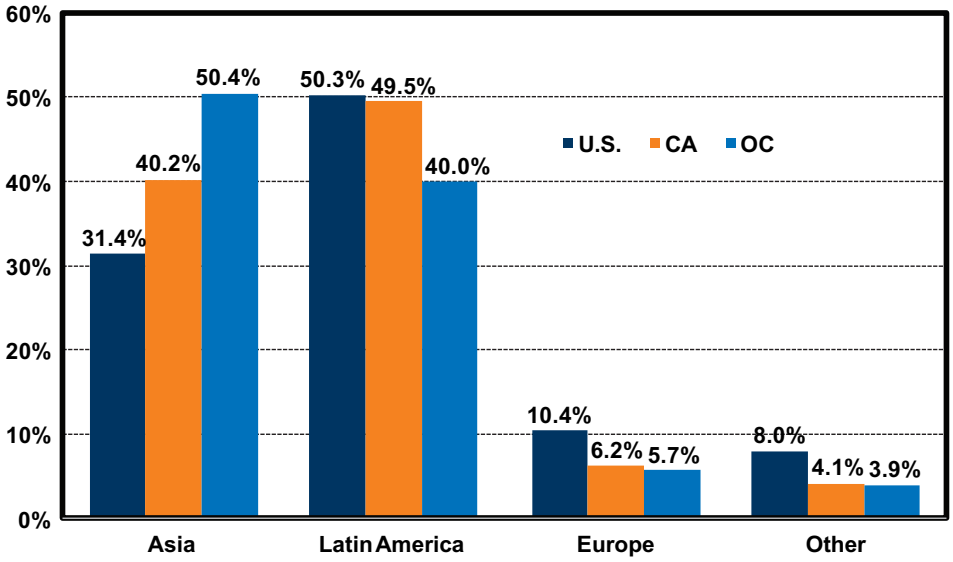


FIGURE 19D
Foreign Born Population by Area of Origin
(percent of total foreign born population)



Orange County residents are better educated, with 15.2% holding postgraduate degrees and 25.8% with bachelor degrees. Those with only high school education or less make up 31.7% of the population, well below the 35.6% figure recorded for the state and 38.5% for the U.S. Finally, Orange County is home to 949,825 foreign-born residents, almost 30% of its population. Half of these immigrants are from Asia, and 40% are from Latin America. Countries with the largest shares are from Latin America — Mexico, El Salvador and Guatemala — and from Asia — China, Korea and the Philippines.

Housing

The housing sector plays an important role in the county's economy because of its size and impact on households living standards. Construction employs approximately 100,000 workers, but with other related services such as real estate and finance, the sector commands a much larger share of the county's economy. High housing costs in the county claim a bigger chunk of one's household earnings, leaving less for other activities.

Home prices have surged post-pandemic nationally, as well as in Orange County. For the U.S., according to the Case-Shiller Housing Price index, the average home price skyrocketed by 22.8% in the 18 months from January 2020 to June 2021 of which 10.3% took place in the first six months of this year. In comparison, according to CoreLogic, Orange County's median single-family housing price rose by an even more astounding 28.1% from January 2020 to August 2021 and by

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14.5% during the first eight months of this year. Other Southern California counties experienced similar outsized jumps in home values (Figures 20 and 21). Sky-high appreciation rates have even surpassed the dramatic surge seen in the aftermath of the Great Recession in 2013–14.

FIGURE 20
Sky-High Appreciation of Home Values
(CoreLogic median home price, yoy change)

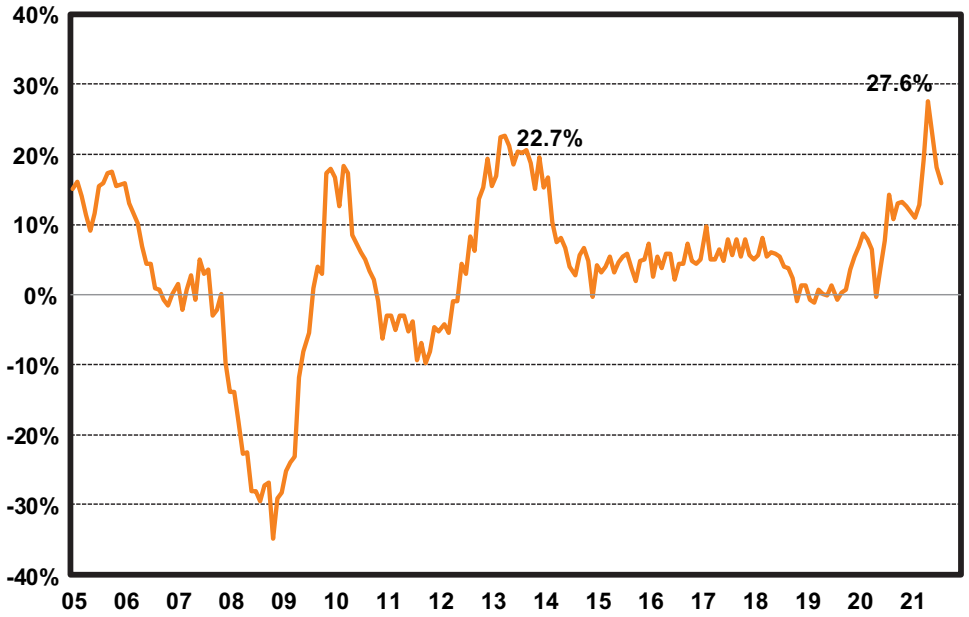
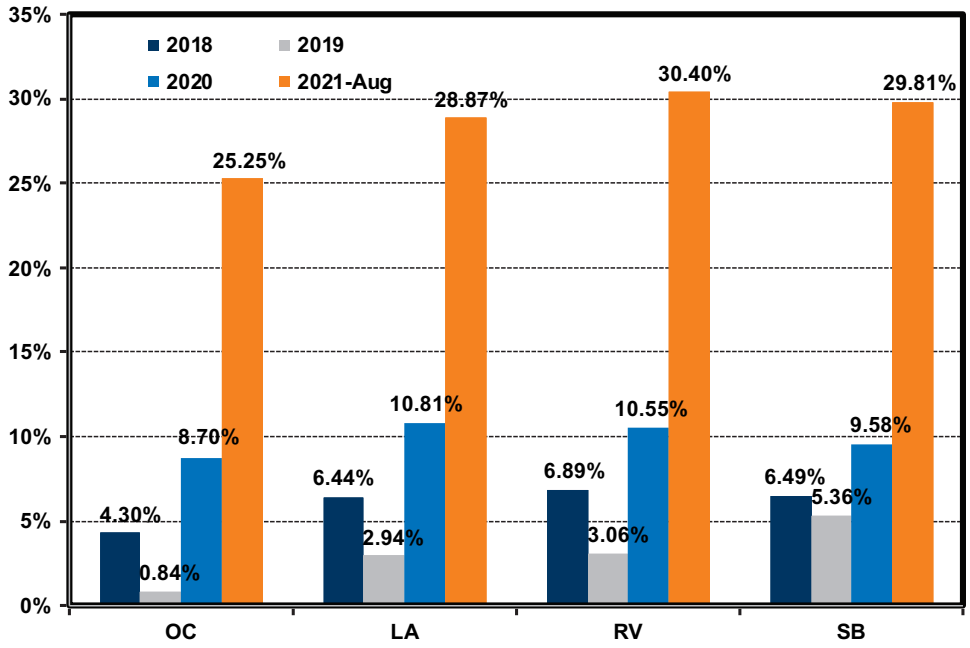


FIGURE 21
Home Prices: A Cross-County Perspective
(annualized percent change)



As expected, housing affordability has declined significantly. The federal Department of Housing and Urban Development (HUD) defines an "affordable dwelling" as one that a household can obtain for 30 percent or less of its income. Under the Section 8 Housing Choice Voucher program, most tenants will pay 30% of their monthly income toward owning a home. The Public Housing Authority that issues and approves the voucher will pay the landlord the remainder of the rent and utility costs. According to Attom Data Solutions estimates, housing costs for a median priced single-family home in Orange County takes up to 68% of income, more than double the official definition. In other words, even two wage earners in Orange County would have a difficult time affording the median home price.

It is unquestionable that the pandemic contributed significantly to the recent run-up in home prices. As the economy reopened, it unleashed pent-up demand for housing spurred by unprecedented household savings, generous government giveaways and reduced spending over the past 18 months. Zoning restrictions and building constraints coupled with higher raw material costs have resulted in fewer houses being built, exacerbating one of the tightest housing markets in history. Low mortgage rates for the last several years have stoked demand further. These trends will continue in the near term. However, as supply constraints ease and mortgage rates rise in tandem with anticipated rate hikes, we expect that home price acceleration will wind down substantially over the medium-to-long term leading to a more normal average increase of 5% per year by the end of 2022.

Another issue related to housing is homelessness. Its causes are manifold and varied, but two major reasons for this phenomenon include high housing costs and a dramatic shortage of affordable housing. In spite of major government and private efforts in Orange and Los Angeles counties, and substantial expense, there are no clear long-term solutions in sight. Several cities in Orange County have stepped up to share the burden of housing the homeless, but there is no countywide plan. In Los Angeles, years of hard work to reduce homelessness appear to have been set aside as the Appeals Court recently nullified decisions made by the federal judge supervising the city's efforts. Along with housing issues, public policy also needs to target the socioeconomic factors that lead to homelessness.

There are, however, some hopeful signs that promise to mitigate the shortage of affordable housing. California recently passed several bills aimed at ramping up home construction over the next several years. SB 9, the California Housing Opportunity and More Efficiency (HOME) Act, allows homeowners to build a duplex or split their current residential lot. Another bill, SB 10, creates a voluntary process for local governments to access a streamlined zoning process for new multi-unit housing near transit or in urban infill areas. This bill simplifies the CEQA requirements for upzoning, thus allowing local governments to voluntarily increase density and provide affordable housing. Yet another bill extends an existing law that accelerates the approval process for housing projects, curtails local governments' ability to downzone and limits fee increases on housing applications. The state has also allocated over $22 billion for affordable housing and issues related to homelessness. This is an unprecedented investment, made possible by state budget surpluses and federal pandemic support. Of this sum, a total of $10.3 billion will be earmarked for new housing and over $12 billion will go towards the homeless population. It is estimated that all these measures will add more than five years' worth of new housing. This effort will not end homelessness nor end the affordable housing crisis, but it should alleviate both of these problems in the near term.

As the economy reopened, it unleashed pent-up demand for housing spurred by unprecedented household savings, generous government giveaways and reduced spending over the past 18 months.

As supply constraints ease and mortgage rates rise in tandem with anticipated rate hikes, we expect that home price acceleration will wind down substantially over the medium-to-long term.

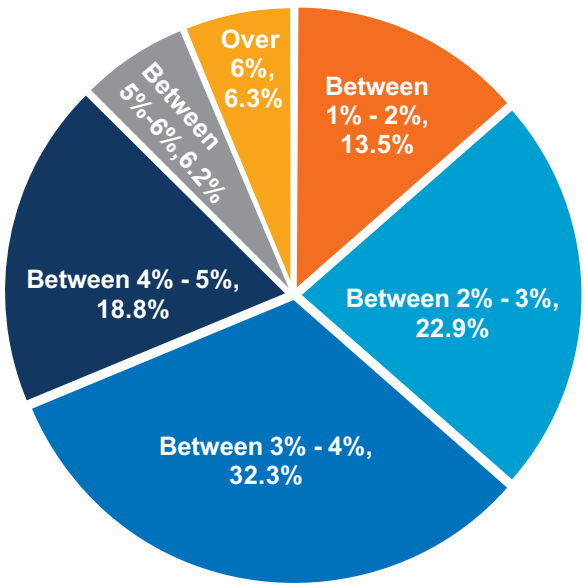
Forecasts

Economic forecasting, always a daunting task, has become an unusually tricky endeavor in the shadow of a once-in-a-century pandemic, which resulted in economic disruptions and enormous government and private actions undertaken to counter these effects. Typical statistical models, which are based on historical data and are thus backward-looking, become poor guides for the path ahead in this unprecedented environment. The situation is made worse at the regional and local levels where good, timely data are hard to come by. We, at the Woods Center, have been using our quarterly survey of Orange County business executives, the OCBX, to supplement information from official data sources. The latest survey was conducted at the end of September 2021.

We expect inflation to be a major factor in the near-term evolution of the county's economy, as was pointed out in our national discussion. One of the questions we asked Orange County business executives in our latest quarterly survey was their expectations of future inflation because, along with current inflation, expectations of future inflation play an important role in determining the future path of inflation itself. 13.5% of the respondents (compared to 5% in the last quarter) said that inflation in 2022 will be between 1% and 2%. A large majority, 56.2% (compared to 61.3% in the last quarter) believe that inflation will come in between 2% and 4% in 2022 and 25.2% (compared to 28.8% last quarter) think it will be between 4% and 6%, while 6% (compared to 5% last quarter) believe it will be over 6% (Figure 22). While lower than the previous survey, a very large number (86.5%) of our respondents expect inflation to be higher than 2%, the Fed's targeted rate. Should these inflation expectations become entrenched and long-lasting, there is a danger of these filtering into actual inflation. As argued above, our view is that the inflation bout will likely persist longer than the current consensus assumes.

A very large number (86.5%) of our respondents expect inflation to be higher than 2%, the Fed's targeted rate.

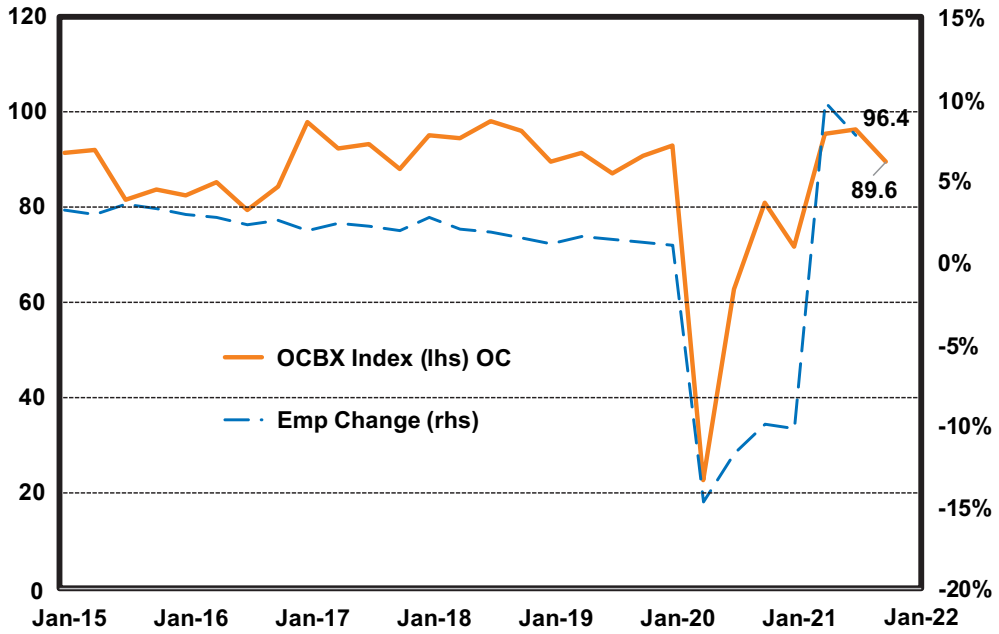
FIGURE 22
Inflation Expectations Are High: A Full 30% Expect Inflation Greater than 4% (OC Business Expectations Survey, Q4:2021)



Business executives also lowered somewhat their expectations for sales, profits and general business conditions for this quarter, though they still anticipate healthy growth. The comprehensive business expectations index, OCBX, which is based on answers to other survey questions, showed a decline to 89.6 from 96.4 in the previous quarter (index values over 50 indicate continued growth) (Figure 23). This likely reflects the spread of Delta and the uncertainty surrounding fiscal measures being debated in the Congress. When asked about their major concerns, labor/supply shortages topped the list, followed by inflation. This was a reversal from last quarter's survey when inflation was the primary concern. It reinforces the importance of continuing disruptions in supply chains as discussed in our national scenario.

Business executives also lowered somewhat their expectations for sales, profits and general business conditions for this quarter, though they still anticipate healthy growth.

FIGURE 23
OCBX: A Bit More Subdued But Continued Growth
(OC Business Expectations Survey Q4:2021)



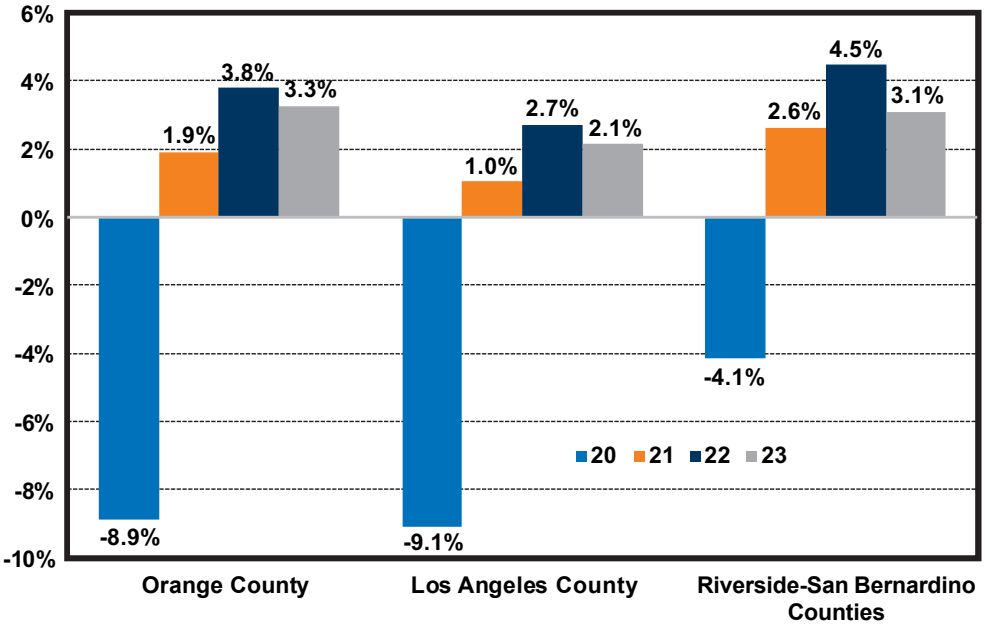
Looking ahead to the likely path of the virus, our baseline scenario assumes that rates of infections, hospitalizations and deaths caused by the Delta variant will continue their downward trend. At the same time, the percentage of people vaccinated will keep improving slowly to reach the "herd resiliency" level of 85% by June 2022, and new treatments for COVID-19 will become more easily available. We also assume that even if new variants were to emerge, vaccines will continue to remain effective, at least against severe illness, hospitalization and death. Under this scenario we expect economic conditions to improve meaningfully, especially next year.

2021 will turn out to be less robust than what was expected early this spring, dented by Delta, supply-chain constraints and labor shortages. Growth, however, will pick up in 2022 and extend at least through 2023 given current expectations for monetary and fiscal policy actions as discussed in the national segment.

We expect continued improvement in employment as the pandemic recedes and more people come back into the labor force. In the larger Southern California region, we expect faster recoveries in Orange County and the Inland Empire but a slower one in Los Angeles County. (Figure 24).

In the larger Southern California region, we expect faster recoveries in Orange County and the Inland Empire but a slower one in Los Angeles County.

FIGURE 24
Payroll Employment Forecasts
(annualized growth rate)



We expect Orange County to gain, on an annualized basis, 29,300 payroll jobs in 2021, 59,000 in 2022, and 52,700 in 2023. Southern California is expected to gain 116,100 jobs in 2021, 253,000 in 2022, and 204,700 in 2023. Orange County and the Inland Empire are expected to reach their pre-pandemic employment levels by the end of 2022, but due to slower gains in Los Angeles County, the largest county in the region, the Southern California region may not get there until the middle of 2023. Detailed forecast tables are available at the end of this report.

Orange County and the Inland Empire are expected to reach their pre-pandemic employment levels by the end of 2022, but due to slower gains in Los Angeles County, the largest county in the region, the Southern California region may not get there until the middle of 2023.

Thanks is due to Bob Giuliano for assistance with this report. Any errors remain the authors' responsibility.

TABLE 1 - NATIONAL

	2016	2017	2018	2019	2020	2021f	2022f	2023f	3 year average 2020-2023
GDP									
Real GDP (Bil. $)	17,680	18,079	18,607	19,033	18,385	19,414	20,152	20,757	20,107.6
% change RGDP	1.7	2.3	2.9	2.3	-3.4	5.6	3.8	3.0	4.1
Nominal GDP (Bil. $)	18,695	19,480	20,527	21,373	20,894	23,359	25,368	27,118	25,281.9
% change Nominal GDP	4.1	2.8	4.3	5.5	4.0	11.8	8.6	6.9	9.1
RGDP Components									
Personal Consumption (% change)	2.5	2.4	2.9	2.2	-3.8	8.2	3.4	2.9	4.8
Business Fixed Investments (% change)	0.9	4.1	6.4	4.3	-5.3	7.3	4.7	4.4	5.5
Residential Investments (% change)	6.6	4.0	-0.6	-0.9	6.8	9.3	4.7	3.9	6.0
Exports (% change)	0.4	4.1	2.8	-0.1	-13.6	5.2	6.1	6.3	5.9
Imports (% change)	1.5	4.4	4.1	1.2	-8.9	17.2	9.2	6.3	10.9
Net Exports (Bil. $)	-757	-800	-864	-905	-943	-1018	-1181	-1255	-1,151
Federal Deficit (Bil. $)	-585	-665	-779	-984	-3,129	-3,005	-1,223	-823	-1,684
Labor Sector									
Unemployment Rate (%)	4.9	4.4	3.9	3.7	8.1	5.5	4.3	3.8	4.5
Payroll Employment (% change)	1.8	1.6	1.6	1.3	-5.7	2.7	2.8	1.6	2.4
Average Weekly Hours (saar)	34.4	34.4	34.5	34.4	34.6	34.7	34.6	34.2	34.5
Labor Productivity (%, saar)	1.3	1.3	1.0	2.3	2.7	3.2	2.6	1.8	2.5
Prices and Wages									
CPI (% change)	1.3	2.1	2.4	1.8	1.2	4.6	4.3	3.5	4.1
Core CPI (% change)	2.2	1.8	2.1	2.2	1.7	3.7	3.9	3.1	3.6
PCE Deflator (% change)	1.0	1.8	2.1	1.5	1.2	3.8	3.7	3.0	3.5
Core PCE Deflator (% change)	1.6	1.7	2.0	1.7	1.4	3.3	3.6	2.6	3.2
Employment Cost Index (% change)	2.2	2.4	2.8	2.7	2.6	3.0	3.4	2.9	3.1
Income/Profits									
Personal Income (% change)	2.6	4.7	5.1	4.1	6.5	6.4	1.2	4.3	4.0
Real Disposable Income (% change)	1.8	2.8	3.4	2.3	6.2	1.5	-0.8	2.1	0.9
Savings Rate (% of disp. income)	7.0	7.3	7.6	7.6	16.3	12.2	9.4	8.1	9.9
After-Tax Profits (% change)	-0.2	9.3	11.4	2.1	-4.7	18.5	6.3	4.4	9.7
Financial Markets (year-end)									
Federal Funds Rate (Upper range) (%)	0.75	1.50	2.50	2.25	0.25	0.25	0.50	1.75	0.83
3-Month T-bill rate (%)	0.50	1.37	2.40	1.52	0.09	0.04	0.58	1.82	0.81
10-Year Treasury Note (%)	2.45	2.40	2.69	1.92	0.93	1.81	2.78	3.14	2.58
30-Year Fixed Mortgage Rate (%)	4.32	3.99	4.55	3.74	2.67	3.27	3.78	3.96	3.67
Exchange Rate, Major Trading Partners (% change)	4.4	-7.0	5.0	-0.8	-2.7	-4.2	-1.2	1.3	-1.37
Other Key Measures									
Crude Oil - Brent ($ per Barrel)	43.6	54.1	71.3	64.3	42.0	77.0	86.9	76.3	80.1
Industrial Production (% change)	-2.2	1.3	3.2	-0.8	-7.2	5.9	4.8	3.2	4.6
Housing Starts (Mill. Units, saar)	1.18	1.21	1.25	1.29	1.40	1.55	1.59	1.48	1.5
Existing Home Sales (Mill. Units, saar)	5.44	5.53	5.33	5.33	5.65	5.95	5.68	5.82	5.8
Light Vehicle Sales (Mill. Units, saar)	17.5	17.2	17.2	17.0	14.5	14.9	16.8	17.2	16.3

TABLE 2 - ORANGE COUNTY

	2019	2020	2021f	2022f	2023f
Levels in Thousands					
Population					
Total population	3,175.7	3,170.6	3,166.6	3,175.0	3,183.0
Annual percentage change	0.0%	-0.2%	-0.1%	0.3%	0.3%
Household Employment					
Labor Force	1,613.1	1,553.3	1,551.6	1,587.5	1,610.6
Total Employment	1,567.2	1,416.7	1,460.2	1,522.7	1,548.2
Total Unemployment	45.9	136.6	91.4	64.8	62.4
Unemployment Rate	2.8%	8.8%	5.9%	4.1%	3.9%
Wage and Salary Employment					
Total Nonfarm	1,673.5	1,524.7	1,554.0	1,613.0	1,665.7
Goods Producing	266.4	251.3	252.6	256.0	259.5
Mining and Logging	0.5	0.3	0.3	0.3	0.3
Construction	106.2	101.9	103.1	104.6	105.6
Manufacturing	159.8	149.0	149.2	151.1	153.5
Durable Goods	118.5	111.2	110.0	110.6	112.2
Nondurable Goods	41.3	37.8	39.2	40.6	41.3
Service Providing	1,407.1	1,273.4	1,301.3	1,356.9	1,406.2
Trade, Transportation and Utilities	259.5	241.6	248.1	255.1	259.2
Wholesale Trade	79.4	74.7	76.3	78.1	79.2
Retail Trade	150.6	137.5	140.7	144.7	147.5
Transportation, Warehousing and Utilities	29.5	29.4	31.2	32.3	32.5
Information	26.0	24.2	24.2	24.1	24.0
Financial Activities	117.6	115.3	114.6	114.2	114.2
Professional and Business Services	328.7	307.1	314.2	322.8	329.1
Educational and Health Services	233.1	224.0	226.5	233.7	240.6
Leisure and Hospitality	227.7	161.5	172.5	200.2	226.6
Other Services	52.0	44.0	45.8	49.3	52.4
Government	162.5	155.7	155.5	157.5	160.2
Percentage change					
Total Nonfarm	1.3%	-8.9%	1.9%	3.8%	3.3%
Goods Producing	-0.2%	-5.7%	0.5%	1.3%	1.3%
Mining and Logging	-10.0%	-25.9%	-3.3%	2.8%	5.0%
Construction	0.3%	-4.0%	1.2%	1.4%	1.0%
Manufacturing	-0.5%	-6.7%	0.1%	1.3%	1.6%
Durable Goods	0.0%	-6.2%	-1.1%	0.6%	1.5%
Nondurable Goods	-2.2%	-8.4%	3.8%	3.3%	1.8%
Service Providing	1.6%	-9.5%	2.2%	4.3%	3.6%
Trade, Transportation and Utilities	-0.8%	-6.9%	2.7%	2.8%	1.6%
Wholesale Trade	-0.6%	-5.9%	2.1%	2.4%	1.5%
Retail Trade	-1.3%	-8.7%	2.3%	2.9%	1.9%
Transportation, Warehousing and Utilities	1.1%	-0.2%	5.9%	3.5%	0.7%
Information	-2.7%	-6.8%	-0.2%	-0.3%	-0.2%
Financial Activities	-0.9%	-2.0%	-0.6%	-0.3%	0.0%
Professional and Business Services	3.5%	-6.6%	2.3%	2.8%	1.9%
Educational and Health Services	3.5%	-3.9%	1.1%	3.2%	2.9%
Leisure and Hospitality	2.3%	-29.1%	6.8%	16.1%	13.2%
Other Services	1.2%	-15.3%	4.1%	7.6%	6.3%
Government	0.8%	-4.2%	-0.1%	1.3%	1.7%
Levels in millions					
Personal Income					
Personal Income	227.7	242.3	257.1	271.7	284.8
Annual percentage change	4.0%	6.4%	6.1%	5.7%	4.8%
Per capita income ($)	$71,711	$76,434	$81,189	$85,589	$89,473
Levels in billions					
Taxable Sales					
Total taxable sales	69.7	63.8	70.6	73.9	77.1
Year to year percentage change	3.3%	-8.4%	10.6%	4.6%	4.4%

TABLE 3 - SOUTHERN CALIFORNIA

	2019	2020	2021f	2022f	2023f
Levels in Thousands					
Population					
Total population	18,892.7	19,064.2	19,228.6	19,404.3	19,578.1
Annual percentage change	0.0%	0.9%	0.9%	0.9%	0.9%
Household Employment					
Labor Force	9,301.7	9,027.2	9,095.8	9,326.5	9,540.2
Total Employment	8,906.0	8,008.9	8,269.4	8,607.7	8,906.7
Total Unemployment	395.6	1,018.3	826.4	718.8	633.5
Unemployment Rate	4.3%	11.3%	9.1%	7.7%	6.6%
Wage and Salary Employment					
Total Nonfarm	8,153.2	7,499.7	7,615.8	7,869.7	8,074.4
Goods Producing	1,016.0	959.5	960.1	974.9	980.5
Mining and Logging	6.4	6.1	6.0	6.3	6.6
Construction	380.3	369.1	382.2	390.7	399.1
Manufacturing	629.3	584.4	572.0	577.9	574.8
Durable Goods	404.9	379.3	371.6	376.4	376.5
Nondurable Goods	224.4	205.1	200.3	201.6	198.4
Service Providing	7,137.2	6,540.2	6,655.7	6,894.8	7,094.0
Trade, Transportation and Utilities	1,575.0	1,497.4	1,562.6	1,615.1	1,660.8
Wholesale Trade	381.8	353.9	358.5	369.8	377.5
Retail Trade	795.6	726.7	757.1	775.0	789.0
Transportation, Warehousing and Utilities	397.6	416.8	447.0	470.4	494.3
Information	260.9	223.5	220.7	234.7	243.5
Financial Activities	403.2	387.3	384.9	389.2	391.7
Professional and Business Services	1,178.6	1,099.5	1,114.6	1,122.9	1,127.4
Educational and Health Services	1,381.9	1,350.8	1,392.3	1,444.4	1,492.6
Leisure and Hospitality	993.7	728.4	764.7	849.3	919.0
Other Services	267.1	219.7	216.6	229.5	239.2
Government	1,076.9	1,033.7	999.3	1,009.8	1,019.9
Percentage change					
Total Nonfarm	1.5%	-8.0%	1.5%	3.3%	2.6%
Goods Producing	0.5%	-5.6%	0.1%	1.5%	0.6%
Mining and Logging	3.2%	-6.0%	-1.6%	6.7%	3.6%
Construction	1.6%	-2.9%	3.6%	2.2%	2.2%
Manufacturing	-0.2%	-7.1%	-2.1%	1.0%	-0.5%
Durable Goods	0.4%	-6.3%	-2.0%	1.3%	0.0%
Nondurable Goods	-1.2%	-8.6%	-2.3%	0.6%	-1.6%
Service Providing	1.6%	-8.4%	1.8%	3.6%	2.9%
Trade, Transportation and Utilities	0.8%	-4.9%	4.4%	3.4%	2.8%
Wholesale Trade	-0.4%	-7.3%	1.3%	3.1%	2.1%
Retail Trade	-1.3%	-8.6%	4.2%	2.4%	1.8%
Transportation, Warehousing and Utilities	6.5%	4.8%	7.2%	5.2%	5.1%
Information	0.3%	-14.3%	-1.3%	6.4%	3.7%
Financial Activities	-0.2%	-3.9%	-0.6%	1.1%	0.6%
Professional and Business Services	2.9%	-6.7%	1.4%	0.7%	0.4%
Educational and Health Services	3.2%	-2.3%	3.1%	3.7%	3.3%
Leisure and Hospitality	2.3%	-26.7%	5.0%	11.1%	8.2%
Other Services	0.3%	-17.8%	-1.4%	6.0%	4.2%
Government	0.2%	-4.0%	-3.3%	1.0%	1.0%
Levels in millions					
Personal Income					
Personal Income	1,139.7	1,214.7	1,290.2	1,358.4	1,421.0
Annual percentage change	4.4%	6.6%	6.2%	5.3%	4.6%
Per capita income ($)	$60,328	$63,715	$67,096	$70,008	$72,579
Levels in billions					
Taxable Sales					
Total taxable sales	342.0	324.4	349.8	362.3	372.4
Year to year percentage change	3.6%	-5.1%	7.8%	3.6%	2.8%

TABLE 4 - LOS ANGELES COUNTY

	2019	2020	2021f	2022f	2023f
Levels in Thousands					
Population					
Total population	10,039.1	10,107.9	10,178.4	10,248.0	10,316.7
Annual percentage change	-0.3%	0.7%	0.7%	0.7%	0.7%
Household Employment					
Labor Force	5,122.8	4,921.5	4,972.1	5,093.3	5,220.2
Total Employment	4,888.6	4,291.7	4,435.7	4,609.9	4,801.1
Total Unemployment	234.3	629.8	536.4	483.4	419.2
Unemployment Rate	4.6%	12.8%	10.8%	9.5%	8.0%
Wage and Salary Employment					
Total Nonfarm	4,561.5	4,146.7	4,189.8	4,303.4	4,395.7
Goods Producing	492.5	460.9	455.0	458.9	456.0
Mining and Logging	1.9	1.7	1.6	1.8	1.9
Construction	149.8	145.5	150.9	153.6	156.5
Manufacturing	340.7	313.8	302.5	303.5	297.7
Durable Goods	201.5	189.5	183.7	185.7	184.1
Nondurable Goods	139.2	124.2	118.8	117.8	113.6
Service Providing	4,069.0	3,685.8	3,734.8	3,844.5	3,939.6
Trade, Transportation and Utilities	851.4	787.3	815.5	834.6	850.2
Wholesale Trade	220.5	200.1	202.4	210.5	215.9
Retail Trade	417.9	378.6	395.9	405.1	412.3
Transportation, Warehousing and Utilities	213.0	208.6	217.3	219.0	222.1
Information	217.9	185.8	183.6	197.1	205.7
Financial Activities	223.5	211.5	210.7	214.2	216.7
Professional and Business Services	643.9	593.3	594.9	590.5	586.0
Educational and Health Services	839.9	820.9	848.8	883.0	915.4
Leisure and Hospitality	547.2	394.4	417.7	448.7	478.8
Other Services	158.4	127.0	122.2	129.2	134.2
Government	586.9	565.6	541.4	547.3	552.5
Percentage change					
Total Nonfarm	1.0%	-9.1%	1.0%	2.7%	2.1%
Goods Producing	0.3%	-6.4%	-1.3%	0.9%	-0.6%
Mining and Logging	-0.4%	-13.0%	-2.0%	9.0%	8.4%
Construction	2.4%	-2.9%	3.7%	1.8%	1.8%
Manufacturing	-0.5%	-7.9%	-3.6%	0.3%	-1.9%
Durable Goods	0.8%	-5.9%	-3.1%	1.1%	-0.9%
Nondurable Goods	-2.4%	-10.8%	-4.4%	-0.8%	-3.6%
Service Providing	1.1%	-9.4%	1.3%	2.9%	2.5%
Trade, Transportation and Utilities	0.0%	-7.5%	3.6%	2.3%	1.9%
Wholesale Trade	-1.2%	-9.2%	1.1%	4.0%	2.6%
Retail Trade	-1.6%	-9.4%	4.6%	2.3%	1.8%
Transportation, Warehousing and Utilities	4.6%	-2.1%	4.1%	0.8%	1.4%
Information	0.7%	-14.7%	-1.2%	7.3%	4.4%
Financial Activities	0.1%	-5.3%	-0.4%	1.7%	1.2%
Professional and Business Services	2.2%	-7.9%	0.3%	-0.7%	-0.8%
Educational and Health Services	2.7%	-2.3%	3.4%	4.0%	3.7%
Leisure and Hospitality	2.0%	-27.9%	5.9%	7.4%	6.7%
Other Services	-0.3%	-19.8%	-3.8%	5.7%	3.9%
Government	-0.6%	-3.6%	-4.3%	1.1%	0.9%
Levels in millions					
Personal Income					
Personal Income	653.5	697.9	742.7	782.1	818.1
Annual percentage change	4.1%	6.8%	6.4%	5.3%	4.6%
Per capita income ($)	$65,094	$69,044	$72,971	$76,316	$79,295
Levels in billions					
Taxable Sales					
Total taxable sales	172.3	157.7	169.6	176.1	179.6
Year to year percentage change	3.8%	-8.5%	7.5%	3.8%	2.0%

TABLE 5 - RIVERSIDE /SAN BERNARDINO COUNTIES

	2019	2020	2021f	2022f	2023f
Levels in Thousands					
Population					
Total population	4,650.6	4,745.5	4,831.2	4,916.7	5,001.9
Annual percentage change	0.8%	2.0%	1.8%	1.8%	1.7%
Household Employment					
Labor Force	2,070.7	2,073.9	2,087.1	2,148.6	2,200.8
Total Employment	1,986.1	1,872.6	1,927.1	2,010.8	2,081.8
Total Unemployment	84.6	201.3	160.0	137.8	119.1
Unemployment Rate	4.1%	9.7%	7.7%	6.4%	5.4%
Wage and Salary Employment					
Total Nonfarm	1,552.1	1,487.8	1,526.8	1,595.3	1,644.6
Goods Producing	208.9	200.5	204.7	211.2	215.6
Mining and Logging	1.2	1.3	1.3	1.4	1.4
Construction	107.2	105.0	111.5	115.2	119.1
Manufacturing	100.6	94.3	91.9	94.6	95.1
Durable Goods	65.0	59.7	58.8	60.7	60.9
Nondurable Goods	35.6	34.6	33.1	33.9	34.2
Service Providing	1,343.2	1,287.4	1,322.2	1,384.0	1,429.0
Trade, Transportation and Utilities	394.4	403.8	432.7	457.1	480.5
Wholesale Trade	67.1	64.6	65.2	66.1	66.9
Retail Trade	180.7	168.8	177.2	180.1	182.2
Transportation, Warehousing and Utilities	146.6	170.5	190.3	210.9	231.4
Information	11.5	9.4	9.0	9.3	9.4
Financial Activities	45.0	43.7	43.1	44.6	45.2
Professional and Business Services	158.7	154.0	159.7	163.5	166.2
Educational and Health Services	250.3	248.7	258.3	266.1	272.2
Leisure and Hospitality	175.9	139.2	140.2	161.0	170.5
Other Services	46.2	39.6	39.6	41.7	42.9
Government	261.2	249.1	239.5	240.7	242.2
Percentage change					
Total Nonfarm	3.1%	-4.1%	2.6%	4.5%	3.1%
Goods Producing	1.4%	-4.1%	2.1%	3.2%	2.1%
Mining and Logging	3.6%	5.5%	3.2%	7.6%	0.4%
Construction	1.9%	-2.1%	6.2%	3.4%	3.3%
Manufacturing	0.8%	-6.3%	-2.5%	2.9%	0.5%
Durable Goods	-0.1%	-8.1%	-1.5%	3.2%	0.4%
Nondurable Goods	2.5%	-2.9%	-4.2%	2.4%	0.8%
Service Providing	3.3%	-4.2%	2.7%	4.7%	3.3%
Trade, Transportation and Utilities	4.1%	2.4%	7.2%	5.6%	5.1%
Wholesale Trade	2.4%	-3.7%	1.0%	1.4%	1.3%
Retail Trade	-0.3%	-6.6%	5.0%	1.6%	1.2%
Transportation, Warehousing and Utilities	11.0%	16.3%	11.7%	10.8%	9.7%
Information	0.7%	-18.7%	-4.3%	3.8%	0.5%
Financial Activities	1.0%	-3.1%	-1.2%	3.4%	1.3%
Professional and Business Services	4.4%	-3.0%	3.7%	2.4%	1.6%
Educational and Health Services	4.5%	-0.6%	3.9%	3.0%	2.3%
Leisure and Hospitality	3.1%	-20.8%	0.7%	14.9%	5.9%
Other Services	0.9%	-14.2%	-0.1%	5.3%	2.9%
Government	1.6%	-4.6%	-3.8%	0.5%	0.6%
Levels in millions					
Personal Income					
Personal Income	196.5	208.5	220.5	231.3	241.8
Annual percentage change	5.5%	6.1%	5.8%	4.9%	4.5%
Per capita income ($)	$42,242	$43,936	$45,646	$47,050	$48,345
Levels in billions					
Taxable Sales					
Total taxable sales	82.4	85.6	90.9	93.2	96.0
Year to year percentage change	3.7%	3.9%	6.2%	2.5%	3.0%

TABLE 6 - VENTURA COUNTY

	2019	2020	2021f	2022f	2023f
Levels in Thousands					
Population					
Total population	846.0	855.1	863.9	872.5	881.1
Annual percentage change	-0.3%	1.1%	1.0%	1.0%	1.0%
Household Employment					
Labor Force	421.4	408.9	412.9	423.2	433.5
Total Employment	405.9	373.9	387.1	403.8	414.5
Total Unemployment	15.5	35.0	25.8	19.4	19.0
Unemployment Rate	3.7%	8.5%	6.2%	4.6%	4.4%
Wage and Salary Employment					
Total Nonfarm	312.8	290.6	294.3	305.3	314.6
Goods Producing	44.6	43.2	44.0	44.9	45.7
Mining and Logging	0.9	0.9	0.9	1.1	1.1
Construction	17.1	16.7	16.8	17.2	17.9
Manufacturing	26.6	25.6	26.2	26.7	26.6
Durable Goods	19.4	18.4	18.7	18.9	18.7
Nondurable Goods	7.2	7.2	7.6	7.8	7.9
Service Providing	268.2	247.3	250.4	260.4	269.0
Trade, Transportation and Utilities	57.8	53.6	54.7	56.8	59.2
Wholesale Trade	13.1	12.8	12.9	13.3	13.6
Retail Trade	38.3	34.8	35.7	37.5	39.5
Transportation, Warehousing and Utilities	6.3	6.1	6.1	6.1	6.1
Information	5.2	3.9	3.7	4.0	4.1
Financial Activities	15.9	15.7	15.3	15.0	14.4
Professional and Business Services	44.4	42.6	43.1	43.2	43.2
Educational and Health Services	49.6	48.5	50.1	52.5	55.1
Leisure and Hospitality	38.5	29.9	30.9	35.6	39.1
Other Services	9.7	8.2	8.2	8.5	8.7
Government	47.1	44.9	44.3	44.8	45.2
Percentage change					
Total Nonfarm	1.2%	-7.1%	1.3%	3.7%	3.0%
Goods Producing	1.7%	-3.2%	1.7%	2.2%	1.6%
Mining and Logging	9.7%	-1.8%	0.9%	13.1%	6.1%
Construction	1.6%	-2.3%	0.6%	2.5%	4.1%
Manufacturing	1.4%	-3.8%	2.5%	1.7%	-0.2%
Durable Goods	-0.3%	-5.4%	1.5%	1.2%	-0.9%
Nondurable Goods	6.4%	0.7%	5.0%	2.8%	1.5%
Service Providing	1.1%	-7.8%	1.2%	4.0%	3.3%
Trade, Transportation and Utilities	-1.5%	-7.2%	1.9%	3.9%	4.2%
Wholesale Trade	0.1%	-2.9%	1.2%	2.8%	2.6%
Retail Trade	-2.3%	-9.3%	2.6%	5.0%	5.5%
Transportation, Warehousing and Utilities	0.1%	-3.4%	-0.5%	-0.1%	0.1%
Information	-2.3%	-25.0%	-5.3%	6.1%	3.8%
Financial Activities	-3.5%	-1.0%	-2.3%	-2.3%	-4.2%
Professional and Business Services	3.4%	-4.0%	1.4%	0.1%	0.0%
Educational and Health Services	4.1%	-2.3%	3.3%	4.9%	4.8%
Leisure and Hospitality	1.9%	-22.3%	3.2%	15.2%	9.9%
Other Services	1.6%	-14.9%	-0.7%	3.7%	3.2%
Government	0.6%	-4.7%	-1.2%	1.1%	0.8%
Levels in millions					
Personal Income					
Personal Income	54.7	58.2	61.6	64.8	67.6
Annual percentage change	4.3%	6.3%	5.9%	5.1%	4.3%
Per capita income ($)	$64,715	$68,030	$71,342	$74,235	$76,673
Levels in billions					
Taxable Sales					
Total taxable sales	14.8	14.5	15.9	16.4	16.8
Year to year percentage change	3.3%	-1.8%	9.4%	2.9%	3.0%

TABLE 7 - IMPERIAL COUNTY

	2019	2020	2021f	2022f	2023f
Levels in Thousands					
Population					
Total population	181.2	185.0	188.5	192.0	195.4
Annual percentage change	-0.2%	2.1%	1.9%	1.8%	1.8%
Household Employment					
Labor Force	73.6	69.6	72.0	73.9	75.1
Total Employment	58.3	54.0	59.1	60.6	61.2
Total Unemployment	15.4	15.7	12.9	13.4	13.8
Unemployment Rate	20.9%	22.5%	17.9%	18.1%	18.4%
Wage and Salary Employment					
Total Nonfarm	53.3	50.0	50.9	52.8	53.8
Goods Producing	3.5	3.6	3.9	3.8	3.7
Mining, Logging and Construction	1.9	1.9	1.7	1.8	1.8
Construction	NA	NA	NA	NA	NA
Manufacturing	1.6	1.8	2.1	2.1	2.0
Durable Goods	0.5	0.5	0.5	0.5	0.5
Nondurable Goods	1.1	1.3	1.6	1.5	1.4
Service Providing	49.8	46.3	47.0	48.9	50.1
Trade, Transportation and Utilities	11.9	11.1	11.5	11.5	11.5
Wholesale Trade	1.8	1.7	1.8	1.8	1.8
Retail Trade	7.9	7.2	7.6	7.6	7.5
Transportation, Warehousing and Utilities	2.2	2.2	2.1	2.2	2.2
Information	0.3	0.2	0.2	0.3	0.3
Financial Activities	1.2	1.1	1.1	1.2	1.2
Professional and Business Services	3.0	2.7	2.7	2.8	2.9
Educational and Health Services	9.0	8.7	8.6	9.1	9.4
Leisure and Hospitality	4.4	3.3	3.5	3.8	4.0
Other Services	0.9	0.8	0.8	0.9	0.9
Government	19.1	18.3	18.5	19.4	19.8
Percentage change					
Total Nonfarm	1.9%	-6.3%	1.8%	3.7%	2.0%
Goods Producing	11.3%	2.6%	6.7%	-1.5%	-2.9%
Mining, Logging and Construction	7.5%	-3.5%	-5.6%	1.1%	-0.4%
Construction	NA	NA	NA	NA	NA
Manufacturing	16.1%	9.7%	19.5%	-3.5%	-5.1%
Durable Goods	0.0%	0.0%	0.8%	2.5%	-0.4%
Nondurable Goods	25.0%	14.1%	26.8%	-5.4%	-6.7%
Service Providing	1.3%	-7.0%	1.4%	4.2%	2.4%
Trade, Transportation and Utilities	-0.7%	-7.1%	4.2%	0.2%	-0.1%
Wholesale Trade	0.9%	-3.3%	1.5%	2.0%	0.0%
Retail Trade	-1.0%	-9.3%	6.2%	-0.7%	-0.7%
Transportation, Warehousing and Utilities	-0.8%	-1.9%	-0.5%	1.9%	1.8%
Information	0.0%	-25.0%	-6.3%	22.3%	13.7%
Financial Activities	-5.8%	-6.8%	-2.1%	6.5%	4.2%
Professional and Business Services	-4.8%	-9.0%	1.1%	4.7%	2.7%
Educational and Health Services	6.6%	-2.7%	-1.6%	5.4%	3.9%
Leisure and Hospitality	2.7%	-24.2%	4.1%	10.8%	5.5%
Other Services	2.8%	-10.8%	0.2%	3.0%	1.6%
Government	1.4%	-4.2%	1.1%	4.4%	2.3%
Levels in millions					
Personal Income					
Personal Income	7.3	7.8	8.2	8.5	8.7
Annual percentage change	7.4%	5.8%	5.5%	4.0%	2.5%
Per capita income ($)	$40,447	$41,931	$43,431	$44,350	$44,656
Levels in billions					
Taxable Sales					
Total taxable sales	2.8	2.7	2.8	2.8	2.9
Year to year percentage change	-1.0%	-1.6%	3.1%	1.0%	1.4%

TABLE 8 - CONSTRUCTION AND REAL ESTATE ('000)

	2019	2020	2021f	2022f	2023f
Orange County					
Permits	9.8	5.9	8.4	9.5	9.0
Residential Valuation()	2,519.5	1,860.8	2,267.5	2,408.8	2,360.3
Non-residential Valuation()	3,105.5	1,953.1	1,575.0	2,259.1	2,599.8
Percentage Change					
Permits	19.7%	-39.8%	41.5%	13.6%	-5.4%
Residential Valuatiton	-4.8%	-26.1%	21.9%	6.2%	-2.0%
Non-residential Valuation	-15.8%	-37.1%	-19.4%	43.4%	15.1%
Los Angeles County					
Permits	21.4	20.3	23.2	21.7	21.3
Residential Valuation()	6,414.3	5,669.4	6,122.0	7,704.7	8,697.9
Non-residential Valuation()	6,235.9	3,490.8	2,538.4	4,812.6	5,105.6
Percentage Change					
Permits	-4.4%	-5.2%	14.5%	-6.6%	-1.5%
Residential Valuatiton	-7.0%	-11.6%	8.0%	25.9%	12.9%
Non-residential Valuation	5.9%	-44.0%	-27.3%	89.6%	6.1%
Riverside-San Bernardino Counties					
Permits	14.4	13.7	14.4	14.1	14.1
Residential Valuation()	3,716.6	3,653.8	3,418.9	3,487.8	3,604.6
Non-residential Valuation()	2,560.6	2,169.0	1,957.7	2,020.7	2,063.2
Percentage Change					
Permits	6.4%	-5.1%	4.9%	-1.6%	-0.2%
Residential Valuatiton	-3.2%	-1.7%	-6.4%	2.0%	3.3%
Non-residential Valuation	-7.8%	-15.3%	-9.7%	3.2%	2.1%
Ventura County					
Permits	1.3	1.0	1.2	1.1	1.0
Residential Valuation()	404.5	293.2	345.8	347.4	323.7
Non-residential Valuation()	204.5	236.5	190.3	165.8	164.3
Percentage Change					
Permits	6.5%	-27.7%	25.5%	-10.8%	-8.5%
Residential Valuatiton	-22.8%	-27.5%	17.9%	0.5%	-6.8%
Non-residential Valuation	-40.9%	15.7%	-19.5%	-12.9%	-0.9%
Imperial County					
Permits	0.7	0.4	0.3	0.3	0.3
Residential Valuation()	90.7	68.1	76.3	134.0	176.0
Non-residential Valuation()	62.7	41.4	72.7	89.9	91.7
Percentage Change					
Permits	65.0%	-40.3%	-18.9%	-13.9%	-6.4%
Residential Valuatiton	34.3%	-24.9%	12.0%	75.7%	31.3%
Non-residential Valuation	-58.6%	-34.0%	75.7%	23.6%	2.0%
Southern California					
Permits	47.6	41.2	47.4	46.6	45.7
Residential Valuatiton	13,145.6	11,545.4	12,230.4	14,082.7	15,162.4
Non-residential Valuation	12,169.1	7,890.7	6,334.1	9,348.2	10,024.7
Percentage Change					
Permits	4.0%	-13.4%	15.1%	-1.7%	-2.1%
Residential Valuatiton	-5.9%	-12.2%	5.9%	15.1%	7.7%
Non-residential Valuation	-5.3%	-35.2%	-19.7%	47.6%	7.2%

Sources: Number of housing permits and valuation data, in thousands, are from CCR

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